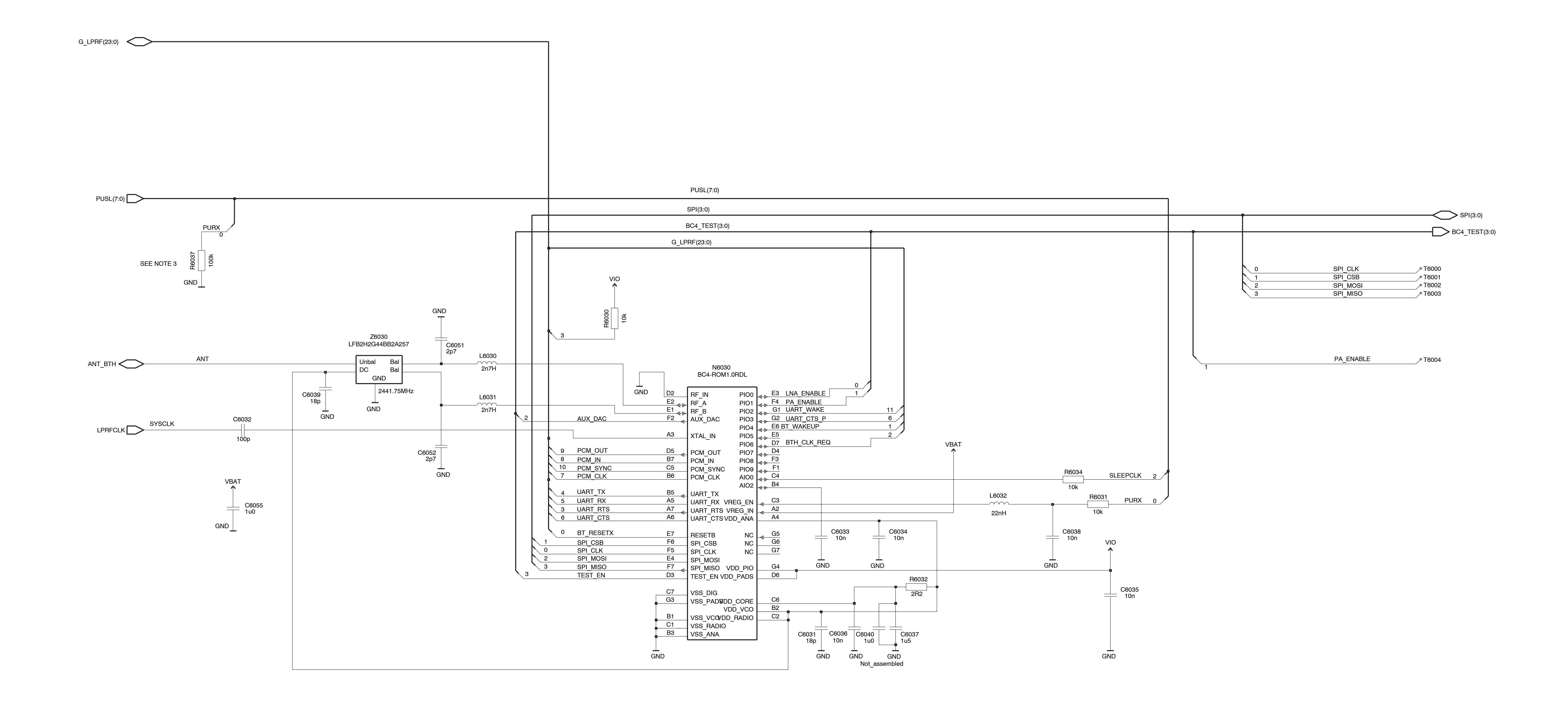

G_LPRF(23:0)
PUSL(7:0)
PURX
SEE NOTE 3
R6037
100k
GND
ANT_BTH
ANT
LPRFCLK
SYSCLK
C6032
100p
Z6030
LFB2H2G44BB2A257
2441.75MHz
C6039
18p
C6051
2p7
C6052
2p7
L6030
2n7H
L6031
2n7H
VBAT
C6055
1u0
VIO
R6030
10k
N6030
BC4-ROM1.0RDL
SPI(3:0)
BC4_TEST(3:0)
SPI_CLK
SPI_CSB
SPI_MOSI
SPI_MISO
T6000
T6001
T6002
T6003
PA_ENABLE
T6004
LNA_ENABLE
UART_WAKE
UART_CTS_P
BT_WAKEUP
BTH_CLK_REQ
PCM_OUT
PCM_IN
PCM_SYNC
PCM_CLK
UART_TX
UART_RX
UART_RTS
UART_CTS
BT_RESETX
TEST_EN
AUX_DAC
R6034
SLEEPCLK
L6032
22nH
R6031
10k
C6033
10n
C6034
10n
C6038
10n
C6035
10n
R6032
2R2
C6031
18p
C6036
10n
C6040
1u0
C6037
1u5
Not_assembled

RF_engine
schematic
RFPWR(4:0)
RF(21:0)
SLOWAD(6:0)

RFPWR(4:0)
RF(21:0)
SLOWAD(6:0)

schemat ic
SLOWAD(6:0)
RF(21:0)
RFPWR(4:0)
PUSL(7:0)
PCM(3:0)
LPRF_CMT(7:0)
SIM(6:0)
PwrOnX
DMIC_En
DAUDIO_CMT(1:0)
H_BRIDGE(3:0)
AUDIO(6:0)
MESSI1_APE_CMT(25:0)
Ext_IOE_INT
SPI_CMT(3:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
GEN_CTRL_CMT(20:0)
MMC_CMT(15:0)
JTAG(6:0)
ETM(16:0)
USB_ACI(7:0)
USB_CTRL(8:0)
VCHARIN
I2C_CMT(1:0)

SIM_Accelerometer
schematic
SIMIF(6:0)
I2C_CMT(1:0)
GEN_CTRL_CMT(20:0)

SIM(6:0)
I2C_CMT(1:0)
GEN_CTRL_CMT(20:0)

Audio_OnOff_Vibra
schematic
PwrOnX
DMIC_En
DAUDIO_CMT(1:0)
H_BRIDGE(3:0)

PWRONX
DMIC_En
DAUDIO_CMT(1:0)
H_BRIDGE(3:0)
schematic

Camera_HWA
schemat ic
SPI_CMT(3:0)
CAMERA_CONN(19:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)

CAMERA_CONN(19:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)

Embeded_MMC
schematic
MMC_CMT(15:0)

MMC_CMT(15:0)

USB
schemat ic
USB_ACI(7:0)
USB_CTRL(8:0)
VCHARIN
I2C_CMT(1:0)
PUSL(7:0)

USB_ACI(7:0)
USB_CTRL(8:0)
VCHARIN
I2C_CMT(1:0)
PUSL(7:0)

BT
schematic
PUSL(7:0)
RF(21:0)
PCM(3:0)
LPRF_CMT(7:0)

PUSL(7:0)
RF(21:0)
PCM(3:0)
LPRF_CMT(7:0)

Board2Flex_conn
schematic
PUSL(7:0)
AUDIO(6:0)
MESSI1_APE_CMT(25:0)
I2C_CMT(1:0)
Ext_IOE_INT
GEN_CTRL_CMT(20:0)
Board2Flex(40:1)

PUSL(7:0)
AUDIO(6:0)
MESSI1_APE_CMT(25:0)
I2C_CMT(1:0)
Ext_IOE_INT
GEN_CTRL_CMT(20:0)
Board2Flex(40:1)

BATTERY_CONN
schematic
SLOWAD(6:0)

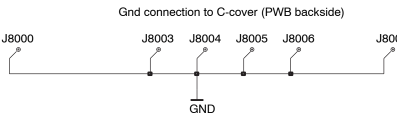
SLOWAD(6:0)

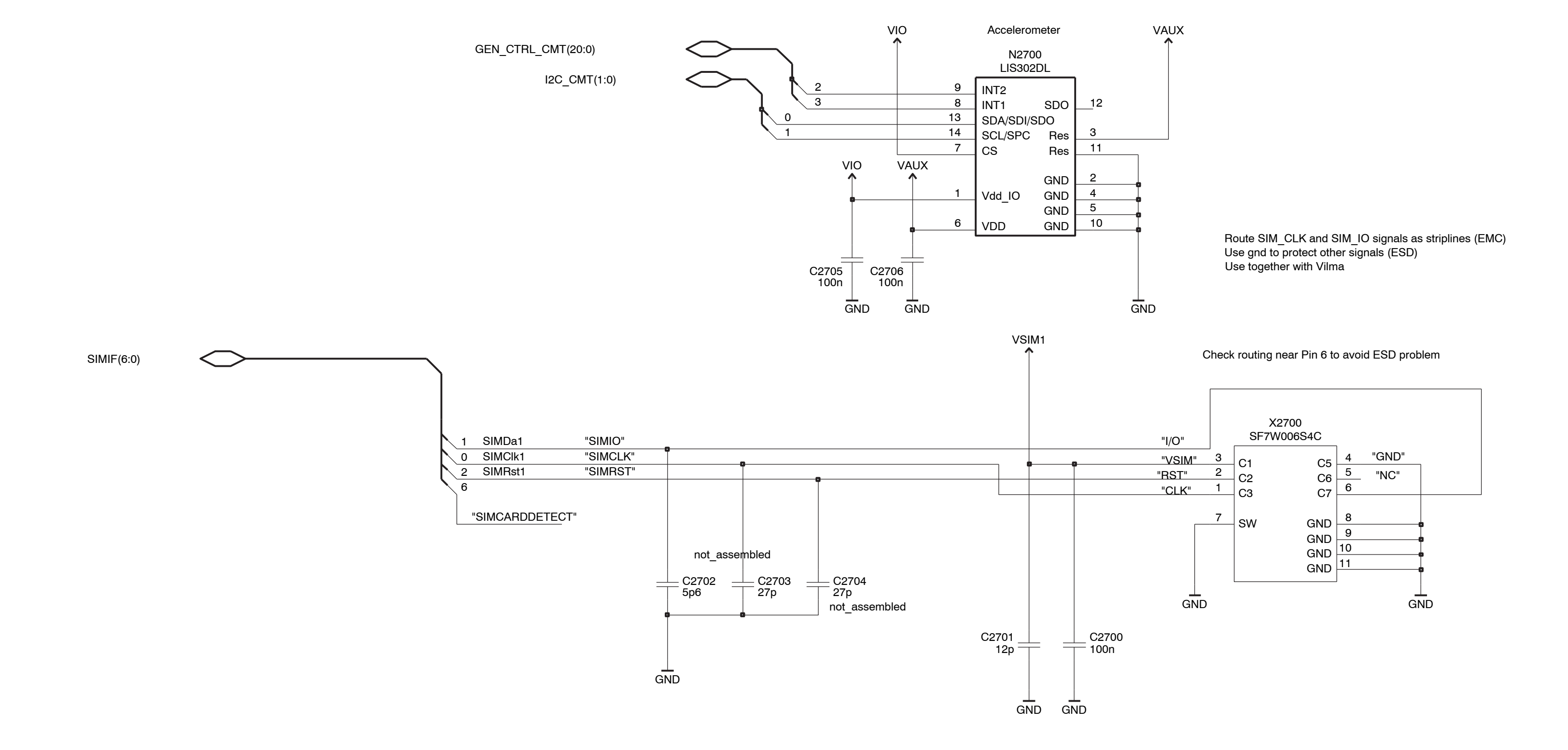
EMU_RAP
schematic
JTAG(6:0)
ETM(16:0)

PROD_TEST_PATTERN
schemat ic
USB_ACI(7:0)
7pin_dct5

USB_ACI(7:0)

Gnd connection to C-cover (PWB backside)





GEN_CTRL_CMT(20:0)
I2C_CMT(1:0)
VIO
Accelerometer
N2700
LIS302DL
VAUX
INT2
INT1
SDA/SDI/SDO
SCL/SPC
CS
SDO
Res
Res
GND
GND
GND
GND
Vdd_IO
VDD
VIO
VAUX
C2705
100n
C2706
100n
GND
GND
GND
Route SIM_CLK and SIM_IO signals as striplines (EMC)
Use gnd to protect other signals (ESD)
Use together with Vilma
SIMIF(6:0)
VSIM1
Check routing near Pin 6 to avoid ESD problem
X2700
SF7W006S4C
SIMDa1
SIMClk1
SIMRst1
"SIMIO"
"SIMCLK"
"SIMRST"
"SIMCARDDETECT"
"I/O"
"VSIM"
"RST"
"CLK"
C1
C2
C3
SW
C5
C6
C7
"GND"
"NC"
GND
GND
GND
GND
not_assembled
C2702
5p6
C2703
27p
C2704
27p
not_assembled
C2701
12p
C2700
100n
GND
GND
GND
GND
GND

On Off Buttom



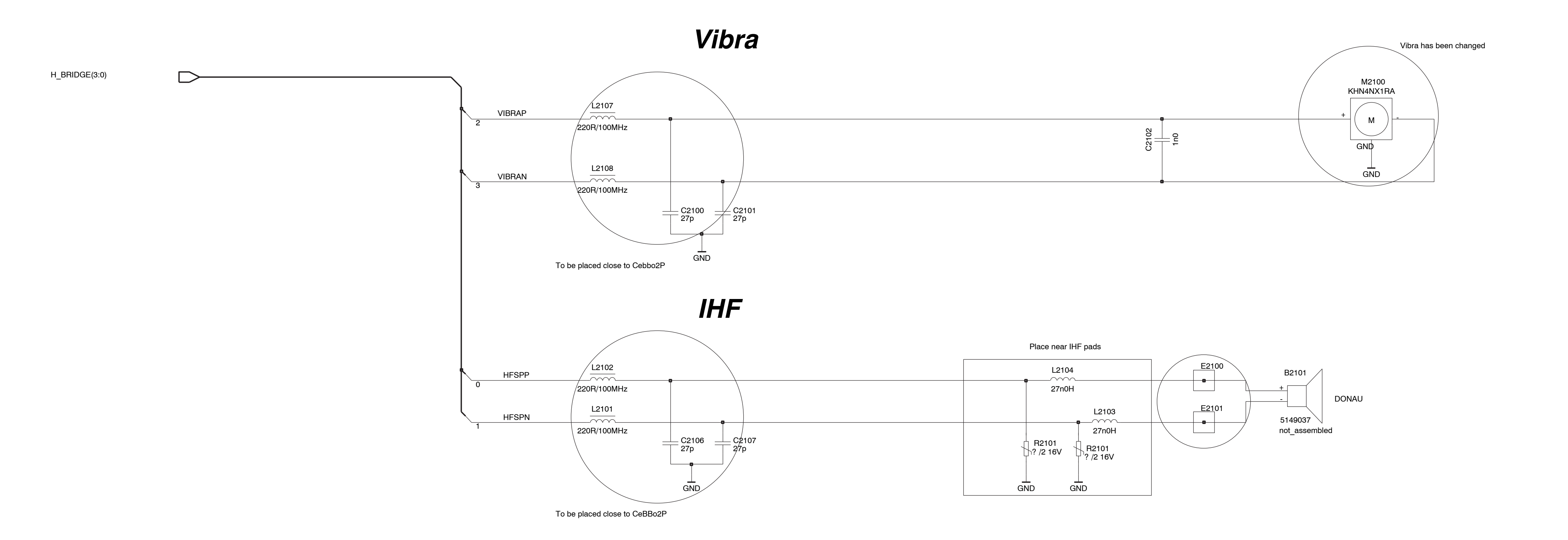
Microphone Interface

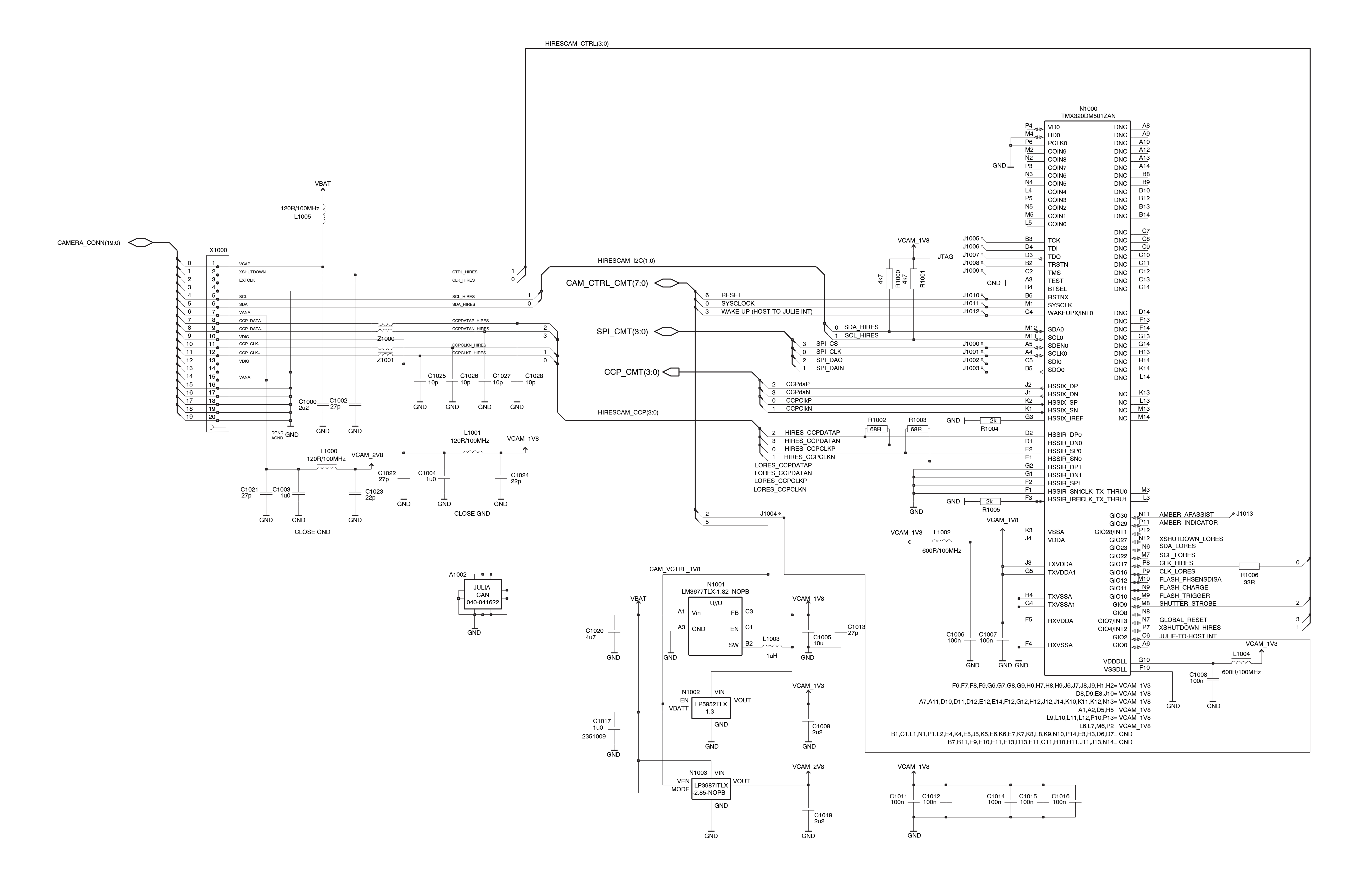
Microphone

DMIC_En
DMIC_En
VDD
DAUDIO_CMT(1:0)
AudioClk
0
Audio_Clk
R2103
1k0
AuxMicData
1
AuxMic_Data
J2100 900X910
B2100
31100-3008062
6 GND
5 CLK
4 OUT
GND 1
L/R 2
VDD 3
C2103
100n
GND

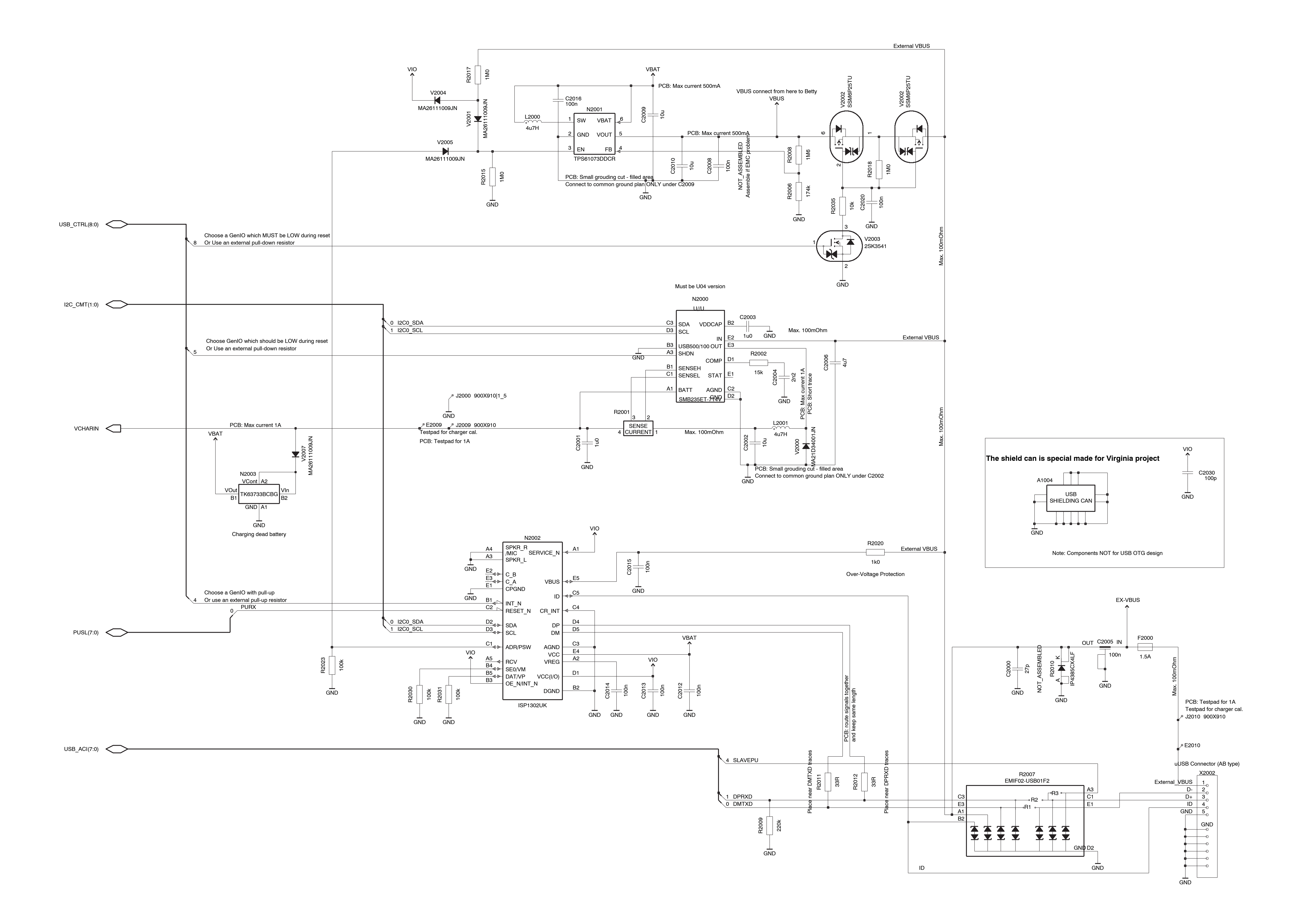
Vibra

IHF





HIRESCAM_CTRL(3:0)
N1000
TMX320DM501ZAN
VD0
HD0
PCLK0
COIN9
COIN8
COIN7
COIN6
COIN4
COIN3
COIN2
COIN1
COIN0
TCK
TDI
TDO
TRSTN
TMS
TEST
BTSEL
RSTNX
SYSCLK
WAKEUPX/INT0
SDA0
SCL0
SDEN0
SCLK0
SDI0
SDO0
HSSIX_DP
HSSIX_DN
HSSIX_SP
HSSIX_SN
HSSIX_IREF
HSSIR_DP0
HSSIR_DN0
HSSIR_SP0
HSSIR_SN0
HSSIR_DP1
HSSIR_DN1
HSSIR_SP1
HSSIR_SN1
HSSIR_IREF
CLK_TX_THRU0
CLK_TX_THRU1
VSSA
VDDA
TXVDDA
TXVDDA1
TXVSSA
TXVSSA1
RXVDDA
RXVSSA
VDDDLL
VSSDLL
DNC
NC
GIO30
GIO29
GIO28/INT1
GIO27
GIO23
GIO22
GIO17
GIO16
GIO12
GIO11
GIO10
GIO9
GIO8
GIO7/INT3
GIO4/INT2
GIO2
GIO0
AMBER_AFASSIST
AMBER_INDICATOR
XSHUTDOWN_LORES
SDA_LORES
SCL_LORES
CLK_HIRES
CLK_LORES
FLASH_PHSENSDISA
FLASH_CHARGE
FLASH_TRIGGER
SHUTTER_STROBE
GLOBAL_RESET
XSHUTDOWN_HIRES
JULIE-TO-HOST INT
J1013
R1006
33R
VCAM_1V3
L1004
600R/100MHz
C1008
100n
GND
CAMERA_CONN(19:0)
X1000
VCAP
XSHUTDOWN
EXTCLK
SCL
SDA
VANA
CCP_DATA+
CCP_DATA-
VDIG
CCP_CLK-
CCP_CLK+
CTRL_HIRES
CLK_HIRES
SCL_HIRES
SDA_HIRES
CCPDATAP_HIRES
CCPDATAN_HIRES
CCPCLKN_HIRES
CCPCLKP_HIRES
Z1000
Z1001
VBAT
120R/100MHz
L1005
DGND
AGND
C1000
2u2
C1002
27p
C1025
10p
C1026
10p
C1027
10p
C1028
10p
L1001
120R/100MHz
VCAM_1V8
L1000
120R/100MHz
VCAM_2V8
C1021
27p
C1003
1u0
C1022
27p
C1023
22p
C1004
1u0
C1024
22p
CLOSE GND
HIRESCAM_I2C(1:0)
CAM_CTRL_CMT(7:0)
RESET
SYSCLOCK
WAKE-UP (HOST-TO-JULIE INT)
SDA_HIRES
SCL_HIRES
SPI_CMT(3:0)
SPI_CS
SPI_CLK
SPI_DAO
SPI_DAIN
CCP_CMT(3:0)
CCPdaP
CCPdaN
CCPClkP
CCPClkN
HIRESCAM_CCP(3:0)
HIRES_CCPDATAP
HIRES_CCPDATAN
HIRES_CCPCLKP
HIRES_CCPCLKN
LORES_CCPDATAP
LORES_CCPDATAN
LORES_CCPCLKP
LORES_CCPCLKN
R1002
68R
R1003
68R
2k
R1004
R1005
JTAG
R1000
4k7
R1001
4k7
J1004
L1002
600R/100MHz
C1006
100n
C1007
100n
A1002
JULIA
CAN
040-041622
CAM_VCTRL_1V8
N1001
LM3677TLX-1.82_NOPB
U//U
Vin
GND
FB
EN
SW
C1020
4u7
L1003
1uH
C1005
10u
C1013
27p
N1002
LP5952TLX
-1.3
VIN
VOUT
VBATT
C1017
1u0
2351009
C1009
2u2
N1003
LP3987ITLX
-2.85-NOPB
VEN
MODE
C1019
2u2
C1011
100n
C1012
100n
C1014
100n
C1015
100n
C1016
100n
F6,F7,F8,F9,G6,G7,G8,G9,H6,H7,H8,H9,J6,J7,J8,J9,H1,H2= VCAM_1V3
D8,D9,E8,J10= VCAM_1V8
A7,A11,D10,D11,D12,E12,E14,F12,G12,H12,J12,J14,K10,K11,K12,N13= VCAM_1V8
A1,A2,D5,H5= VCAM_1V8
L9,L10,L11,L12,P10,P13= VCAM_1V8
L6,L7,M6,P2= VCAM_1V8
B1,C1,L1,N1,P1,L2,E4,K4,E5,J5,K5,E6,K6,E7,K7,K8,L8,K9,N10,P14,E3,H3,D6,D7= GND
B7,B11,E9,E10,E11,E13,D13,F11,G11,H10,H11,J11,J13,N14= GND



External VBUS
VIO
V2004
MA26111009JN
R2017
1M0
V2001
MA26111009JN
V2005
MA26111009JN
R2015
1M0
GND
C2016
100n
N2001
L2000
4u7H
SW
GND
EN
VBAT
VOUT
FB
TPS61073DDCR
VBAT
PCB: Max current 500mA
C2009
10u
PCB: Small grouding cut - filled area
Connect to common ground plan ONLY under C2009
C2010
10u
C2008
100n
PCB: Max current 500mA
NOT_ASSEMBLED
Assemble if EMC problem
VBUS connect from here to Betty
VBUS
R2008
1M6
R2006
174k
V2002
SSM6P25TU
R2018
1M0
C2020
100n
R2035
10k
V2003
2SK3541
USB_CTRL(8:0)
Choose a GenIO which MUST be LOW during reset
Or Use an external pull-down resistor
Max. 100mOhm
Must be U04 version
N2000
SDA
SCL
USB500/100
SHDN
SENSEH
SENSEL
BATT
VDDCAP
IN
OUT
COMP
STAT
AGND
GND
SMB235ET-7HV
C2003
1u0
Max. 100mOhm
External VBUS
R2002
15k
C2004
2n2
C2006
4u7
I2C_CMT(1:0)
I2C0_SDA
I2C0_SCL
Choose GenIO which should be LOW during reset
Or Use an external pull-down resistor
J2000 900X910|1_5
VCHARIN
PCB: Max current 1A
E2009
J2009 900X910
Testpad for charger cal.
PCB: Testpad for 1A
R2001
SENSE CURRENT
C2001
1u0
Max. 100mOhm
L2001
4u7H
C2002
10u
V2000
MA21D34001JN
PCB: Max current 1A
PCB: Short trace
PCB: Small grouding cut - filled area
Connect to common ground plan ONLY under C2002
VBAT
V2007
MA26111009JN
N2003
VCont
VOut
TK63733BCBG
VIn
Charging dead battery
The shield can is special made for Virginia project
A1004
USB SHIELDING CAN
C2030
100p
Note: Components NOT for USB OTG design
N2002
SPKR_R
/MIC
SPKR_L
C_B
C_A
CPGND
INT_N
RESET_N
SDA
SCL
ADR/PSW
RCV
SE0/VM
DAT/VP
OE_N/INT_N
SERVICE_N
VBUS
ID
CR_INT
DP
DM
AGND
VCC
VREG
VCC(I/O)
DGND
ISP1302UK
Choose a GenIO with pull-up
Or use an external pull-up resistor
PURX
PUSL(7:0)
R2023
100k
R2030
100k
R2031
100k
C2015
100n
C2014
100n
C2013
100n
C2012
100n
R2020
1k0
Over-Voltage Protection
EX-VBUS
OUT C2005 IN
100n
F2000
1.5A
C2000
27p
NOT_ASSEMBLED
R2010
IP4385CX4LF
Max. 100mOhm
PCB: Testpad for 1A
Testpad for charger cal.
J2010 900X910
E2010
uUSB Connector (AB type)
X2002
External_VBUS
D-
D+
ID
GND
PCB: route signals together
and keep same length
USB_ACI(7:0)
SLAVEPU
DPRXD
DMTXD
Place near DMTXD traces
R2011
33R
R2012
33R
Place near DPRXD traces
R2009
220k
R2007
EMIF02-USB01F2
R1
R2
R3
GND

CMT_ENGINE

1tqa_05_0203189

AUDIO(6:0)
H_BRIDGE(3:0)
SIM(6:0)
XAUDIO(5:0)
USB_ACI(7:0)
CHARGER
SLOWAD(6:0)
ETM(16:0)
JTAG(6:0)
LPRFCLK_I
PWRONX
INTUSB(8:0)
PUSL(7:0)
PCM(3:0)
AUDIOCTRL(5:0)
CBUS(3:0)
DIG_AUDIO(5:0)
AuxMicData

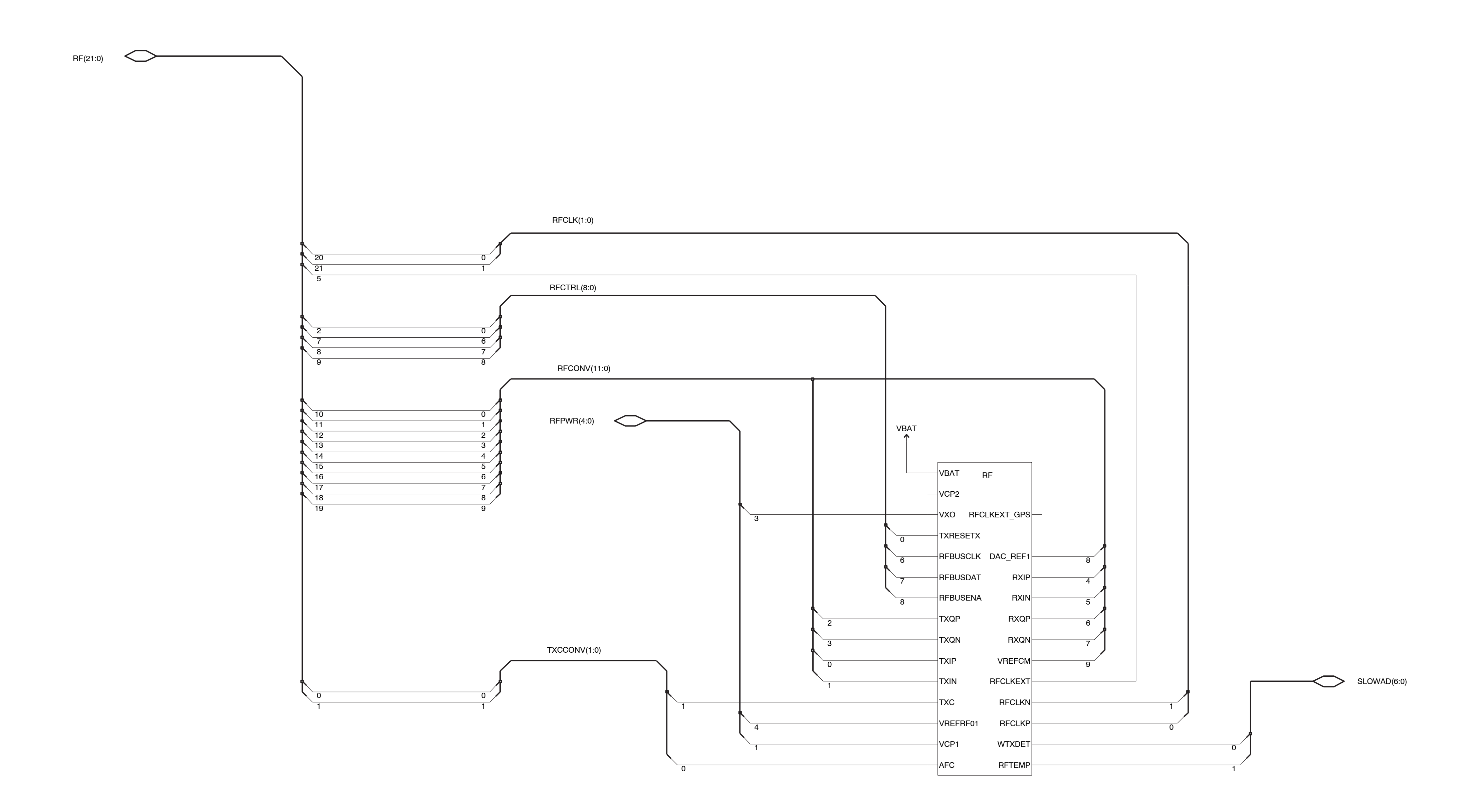
LPRFCLK
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(1:0)
RFPWR(4:0)
LPRF_CMT(7:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
MMC_CMT(15:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
IRDA_CMT(2:0)
I2C_CMT(1:0)
DMIC_EN

AUDIO(6:0)
H_BRIDGE(3:0)
SIM(6:0)
Mic2N Mic2P XearL XearLC
J5003 E5003 J5004 E5004 J5005 E5005 J5006 E5006
R5002 R5005
5.6V/15V/0.05J
GND
USB_ACI(7:0)
VCHARIN
SLOWAD(6:0)
ETM(16:0)
JTAG(6:0)
PwrOnX
PUSL(7:0)
PCM(3:0)
DAUDIO_CMT(1:0)
AudioClk
AuxMicData
I2C_CMT(1:0)
GEN_CTRL_CMT(20:0)
USB_CTRL(8:0)
USB OTG INT_N
USB Charging EN
USB OTG

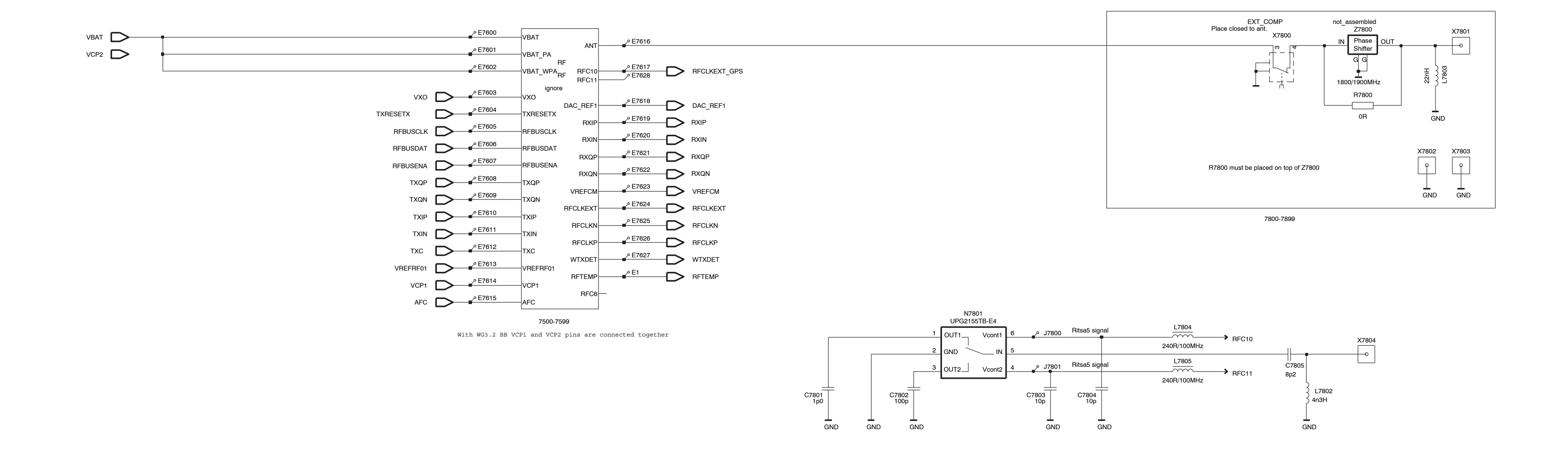
VIO
R5003 2k
R5004 2k
C5000 100p
GND

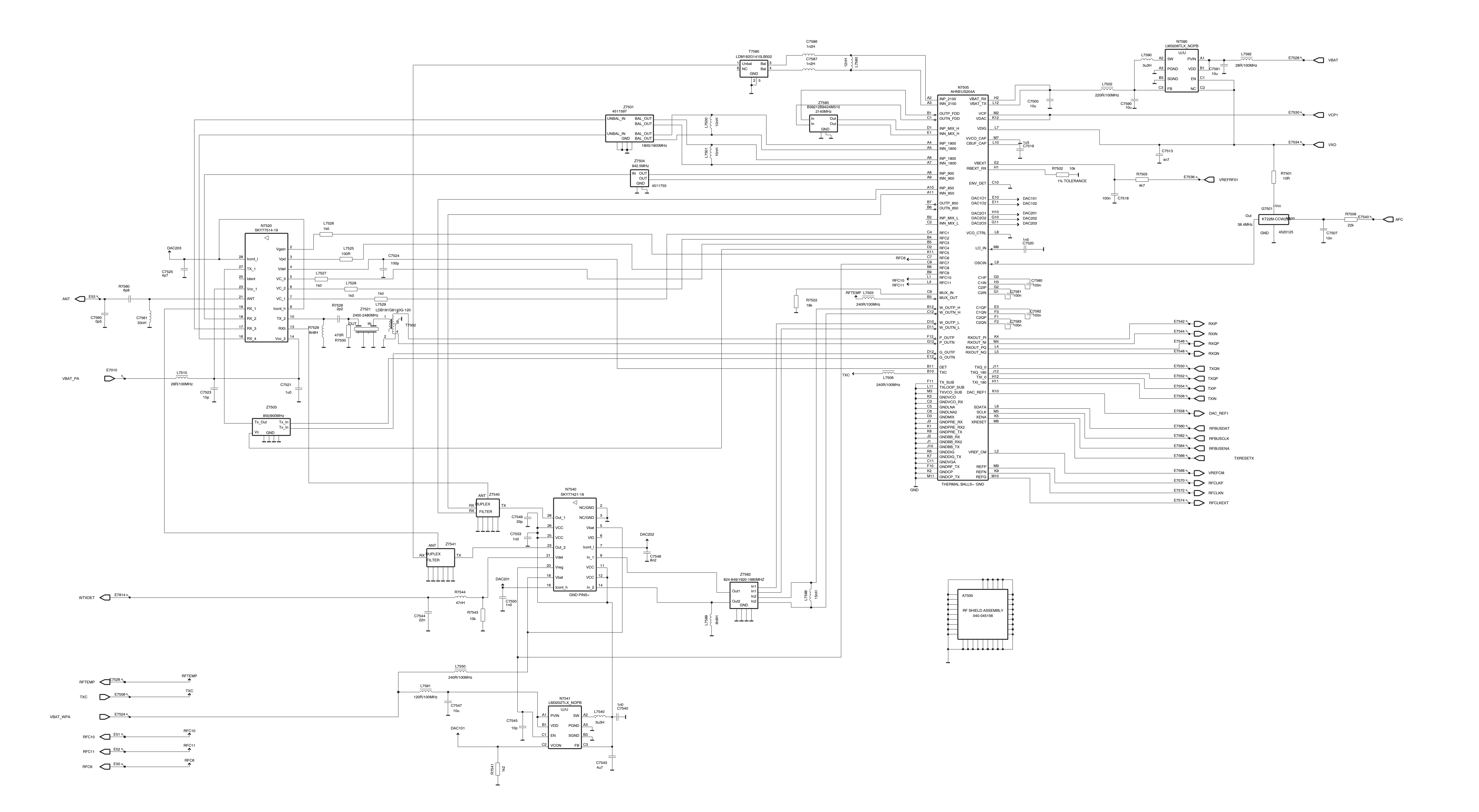
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(1:0)
RF(21:0)
RFPWR(4:0)
LPRF_CMT(7:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
MMC_CMT(15:0)
MESSI1_APE_CMT(25:0)
Ext_IOE_INT
SPI_CMT(3:0)
DMIC_En

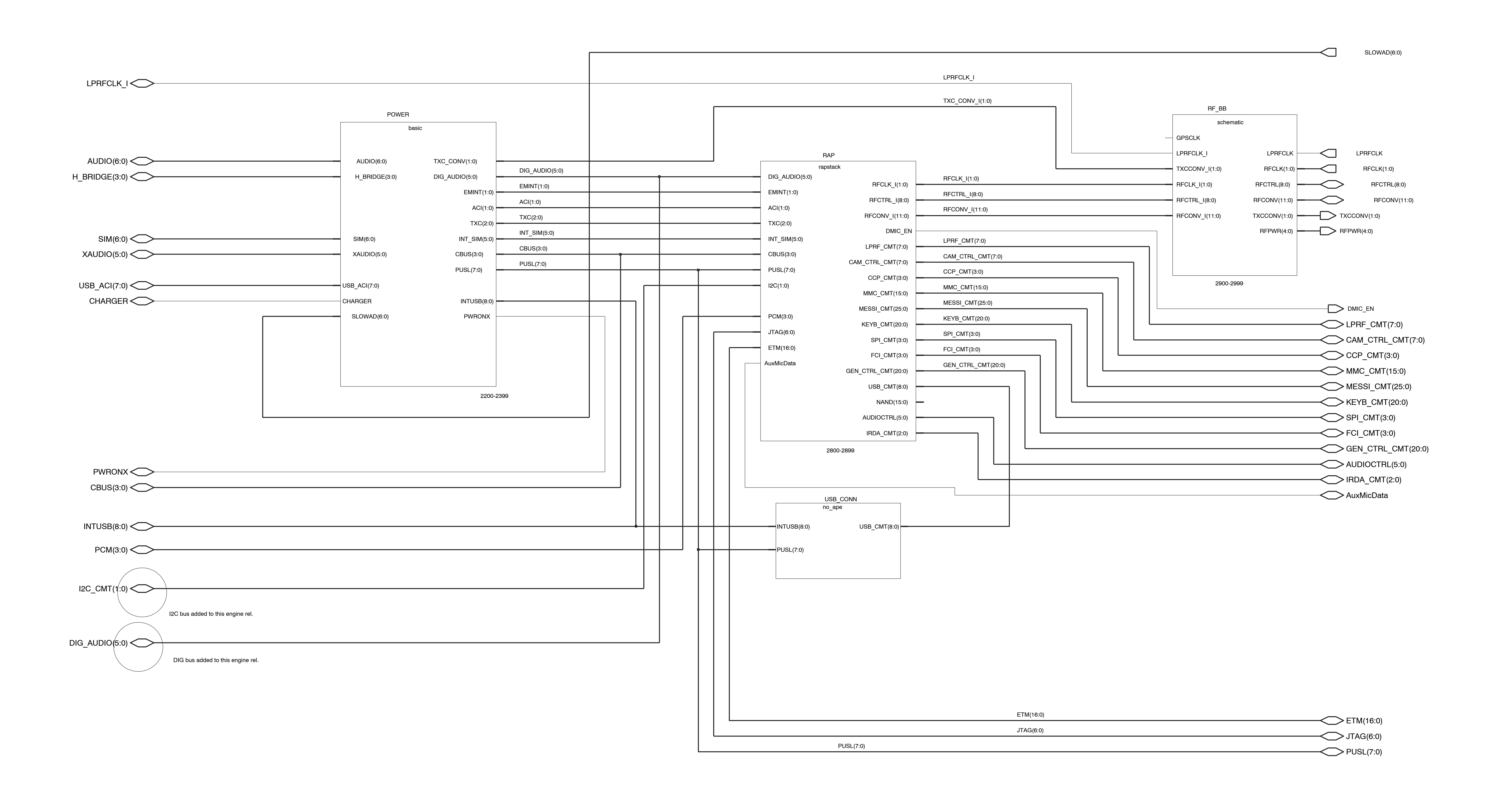
A1000
SHIELD
BB_SHIELDING
9591763
GND



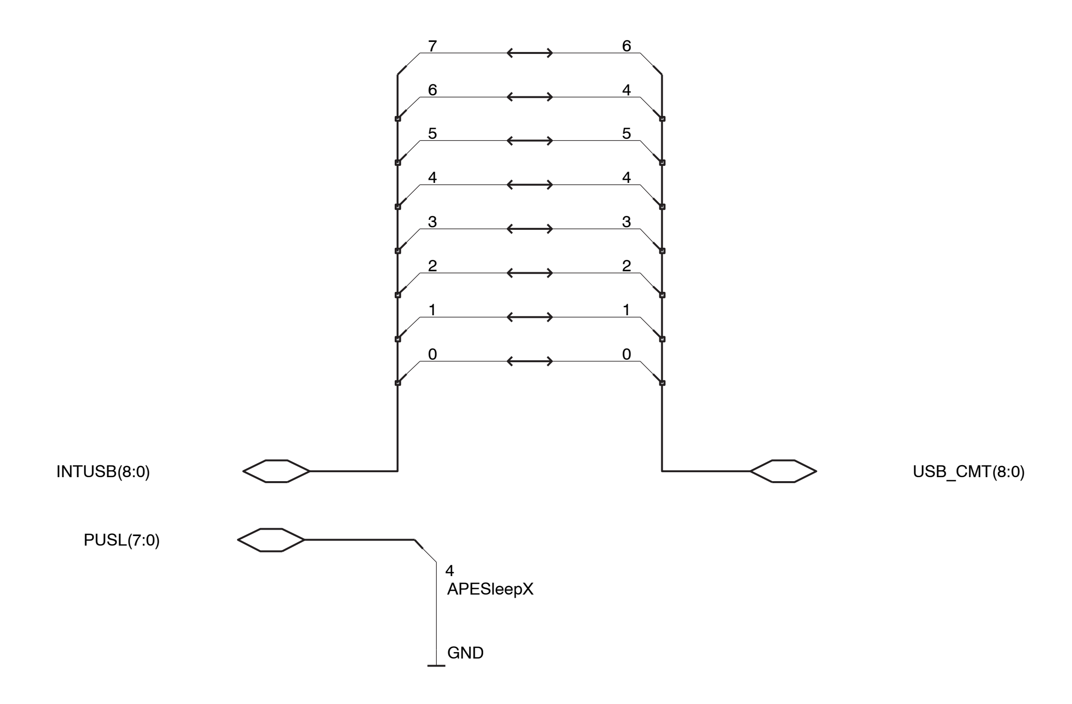
RF(21:0)
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
RFPWR(4:0)
TXCCONV(1:0)
SLOWAD(6:0)
VBAT
RF
VBAT
VCP2
VXO
RFCLKEXT_GPS
TXRESETX
RFBUSCLK
DAC_REF1
RFBUSDAT
RXIP
RFBUSENA
RXIN
TXQP
RXQP
TXQN
RXQN
TXIP
VREFCM
TXIN
RFCLKEXT
TXC
RFCLKN
VREFRF01
RFCLKP
VCP1
WTXDET
AFC
RFTEMP


VBAT
VCP2
E7600
VBAT
E7601
VBAT_PA
E7602
VBAT_WPA
RF
RF
ignore
ANT
E7616
RFC10
RFC11
E7617
E7628
RFCLKEXT_GPS
VXO
E7603
TXRESETX
E7604
RFBUSCLK
E7605
RFBUSDAT
E7606
RFBUSENA
E7607
TXQP
E7608
TXQN
E7609
TXIP
E7610
TXIN
E7611
TXC
E7612
VREFRF01
E7613
VCP1
E7614
AFC
E7615
DAC_REF1
E7618
RXIP
E7619
RXIN
E7620
RXQP
E7621
RXQN
E7622
VREFCM
E7623
RFCLKEXT
E7624
RFCLKN
E7625
RFCLKP
E7626
WTXDET
E7627
RFTEMP
E1
RFC6
7500-7599
With WG3.2 BB VCP1 and VCP2 pins are connected together
Remove Harmonics
EXT_COMP
Place closed to ant.
X7800
3
4
not_assembled
Z7800
IN
Phase
Shifter
OUT
G
G
1800/1900MHz
R7800
0R
X7801
22nH
L7803
GND
R7800 must be placed on top of Z7800
X7802
X7803
GND
GND
7800-7899
N7801
UPG2155TB-E4
1
OUT1
2
GND
3
OUT2
Vcont1
IN
Vcont2
6
5
4
J7800
J7801
Ritsa5 signal
Ritsa5 signal
L7804
240R/100MHz
RFC10
L7805
240R/100MHz
RFC11
C7805
8p2
X7804
L7802
4n3H
C7801
1p0
C7802
100p
C7803
10p
C7804
10p
GND
GND
GND
GND
GND
GND





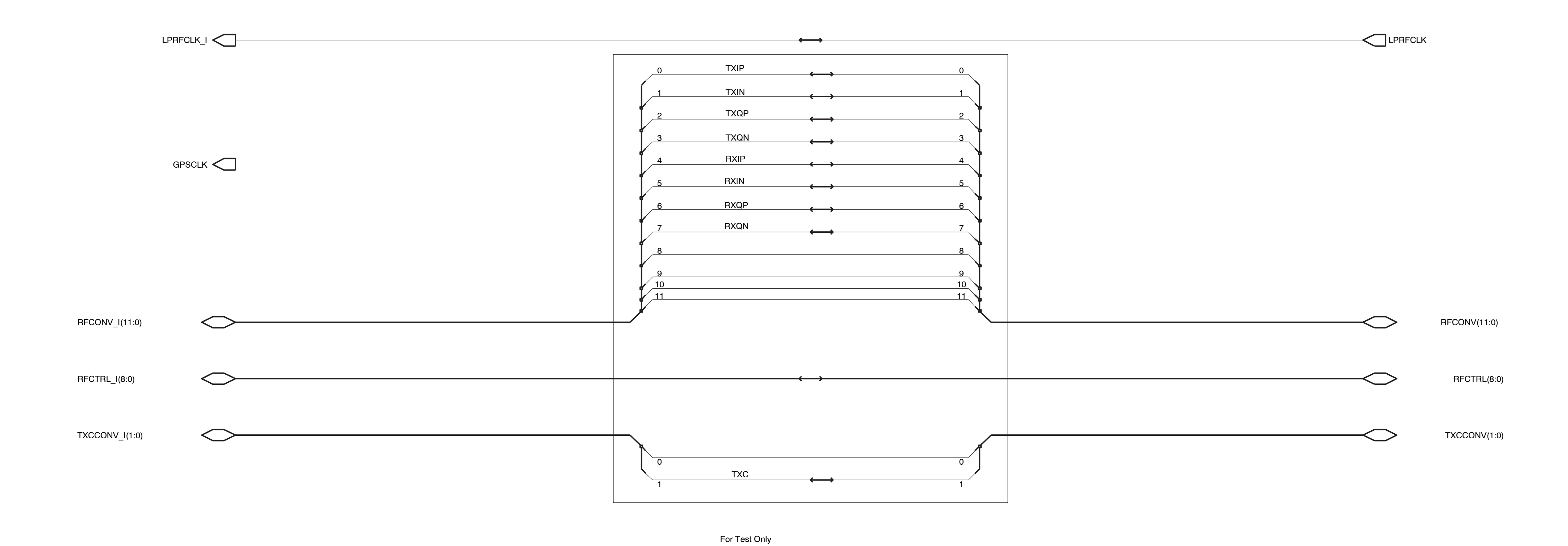
SLOWAD(6:0)
LPRFCLK_I
LPRFCLK_I
TXC_CONV_I(1:0)
POWER
basic
AUDIO(6:0)
H_BRIDGE(3:0)
AUDIO(6:0)
H_BRIDGE(3:0)
TXC_CONV(1:0)
DIG_AUDIO(5:0)
EMINT(1:0)
ACI(1:0)
TXC(2:0)
INT_SIM(5:0)
CBUS(3:0)
PUSL(7:0)
SIM(6:0)
XAUDIO(5:0)
SIM(6:0)
XAUDIO(5:0)
USB_ACI(7:0)
CHARGER
USB_ACI(7:0)
CHARGER
SLOWAD(6:0)
INTUSB(8:0)
PWRONX
2200-2399
DIG_AUDIO(5:0)
EMINT(1:0)
ACI(1:0)
TXC(2:0)
INT_SIM(5:0)
CBUS(3:0)
PUSL(7:0)
RAP
rapstack
DIG_AUDIO(5:0)
EMINT(1:0)
ACI(1:0)
TXC(2:0)
INT_SIM(5:0)
CBUS(3:0)
PUSL(7:0)
I2C(1:0)
PCM(3:0)
JTAG(6:0)
ETM(16:0)
AuxMicData
RFCLK_I(1:0)
RFCTRL_I(8:0)
RFCONV_I(11:0)
DMIC_EN
LPRF_CMT(7:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
MMC_CMT(15:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
USB_CMT(8:0)
NAND(15:0)
AUDIOCTRL(5:0)
IRDA_CMT(2:0)
2800-2899
RFCLK_I(1:0)
RFCTRL_I(8:0)
RFCONV_I(11:0)
LPRF_CMT(7:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
MMC_CMT(15:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
RF_BB
schematic
GPSCLK
LPRFCLK_I
TXCCONV_I(1:0)
RFCLK_I(1:0)
RFCTRL_I(8:0)
RFCONV_I(11:0)
LPRFCLK
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(1:0)
RFPWR(4:0)
2900-2999
LPRFCLK
RFCLK(1:0)
RFCTRL(8:0)
RFCONV(11:0)
TXCCONV(1:0)
RFPWR(4:0)
DMIC_EN
LPRF_CMT(7:0)
CAM_CTRL_CMT(7:0)
CCP_CMT(3:0)
MMC_CMT(15:0)
MESSI_CMT(25:0)
KEYB_CMT(20:0)
SPI_CMT(3:0)
FCI_CMT(3:0)
GEN_CTRL_CMT(20:0)
AUDIOCTRL(5:0)
IRDA_CMT(2:0)
AuxMicData
PWRONX
CBUS(3:0)
USB_CONN
no_ape
INTUSB(8:0)
PUSL(7:0)
USB_CMT(8:0)
INTUSB(8:0)
PCM(3:0)
I2C_CMT(1:0)
I2C bus added to this engine rel.
DIG_AUDIO(5:0)
DIG bus added to this engine rel.
ETM(16:0)
JTAG(6:0)
PUSL(7:0)
ETM(16:0)
JTAG(6:0)
PUSL(7:0)

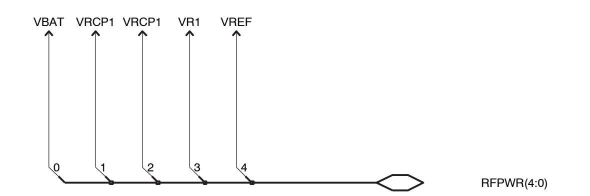

7
6
6
4
5
5
4
4
3
3
2
2
1
1
0
0
INTUSB(8:0)
USB_CMT(8:0)
PUSL(7:0)
4
APESleepX
GND

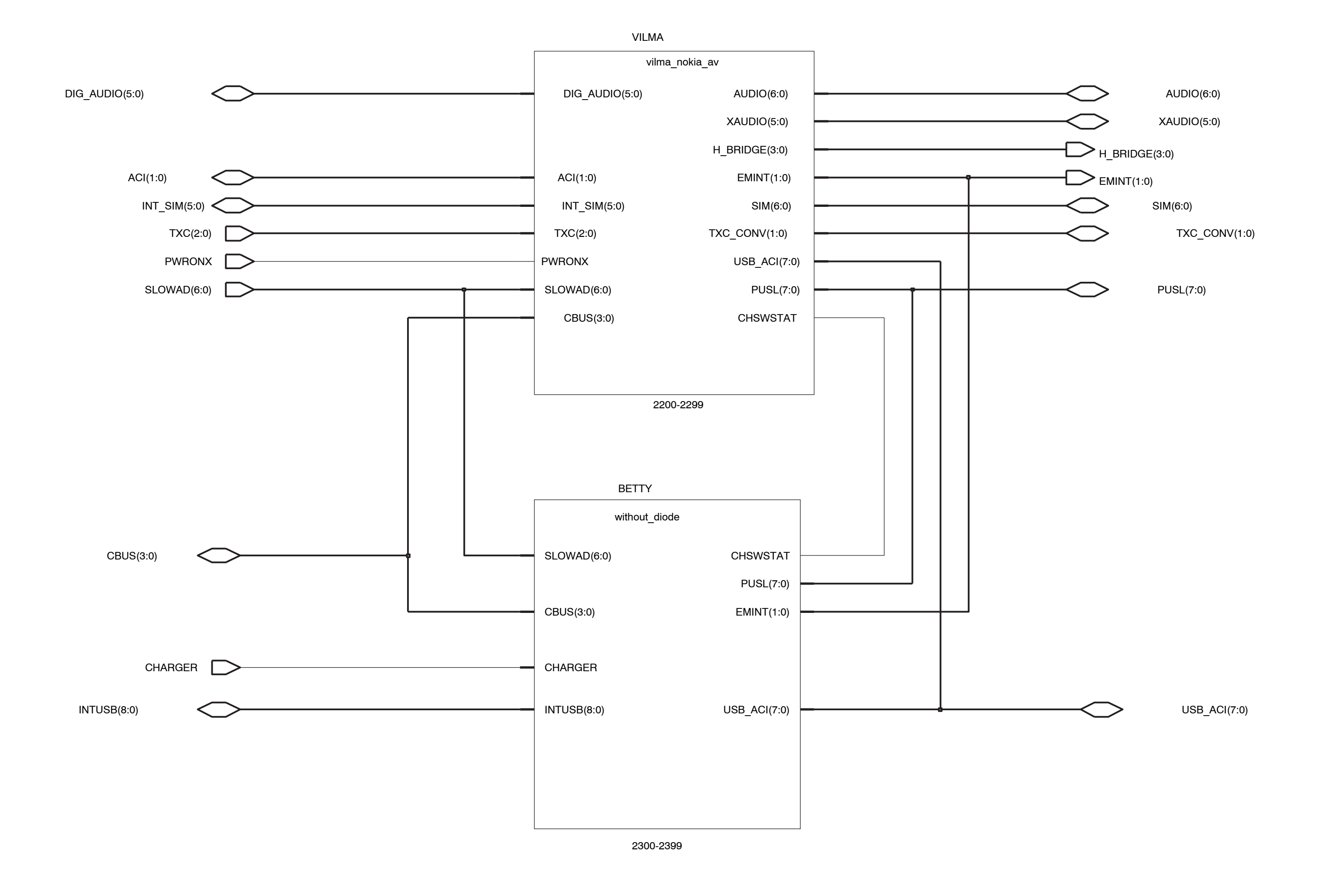
CBB5X

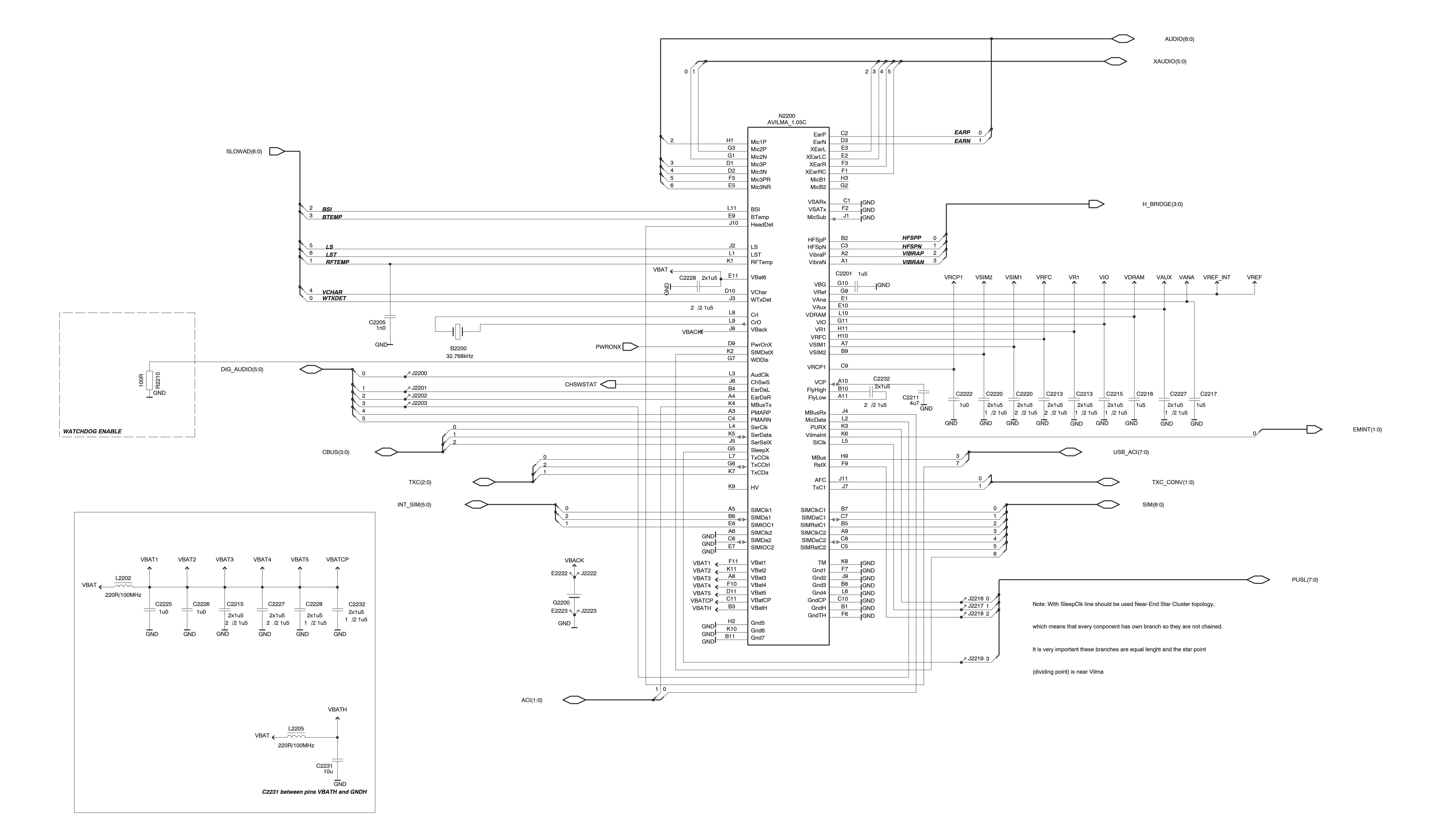
TOP SHEET

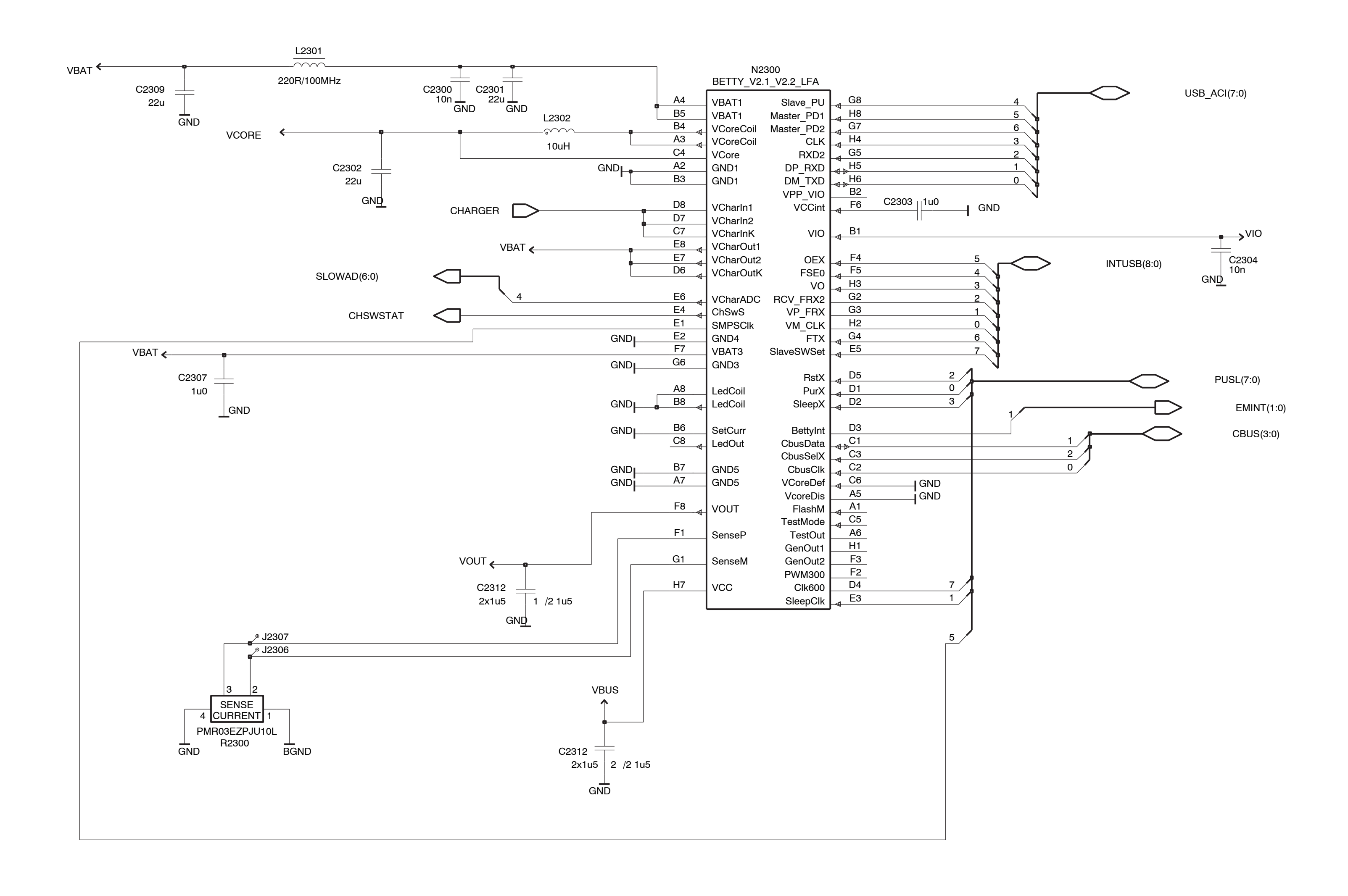




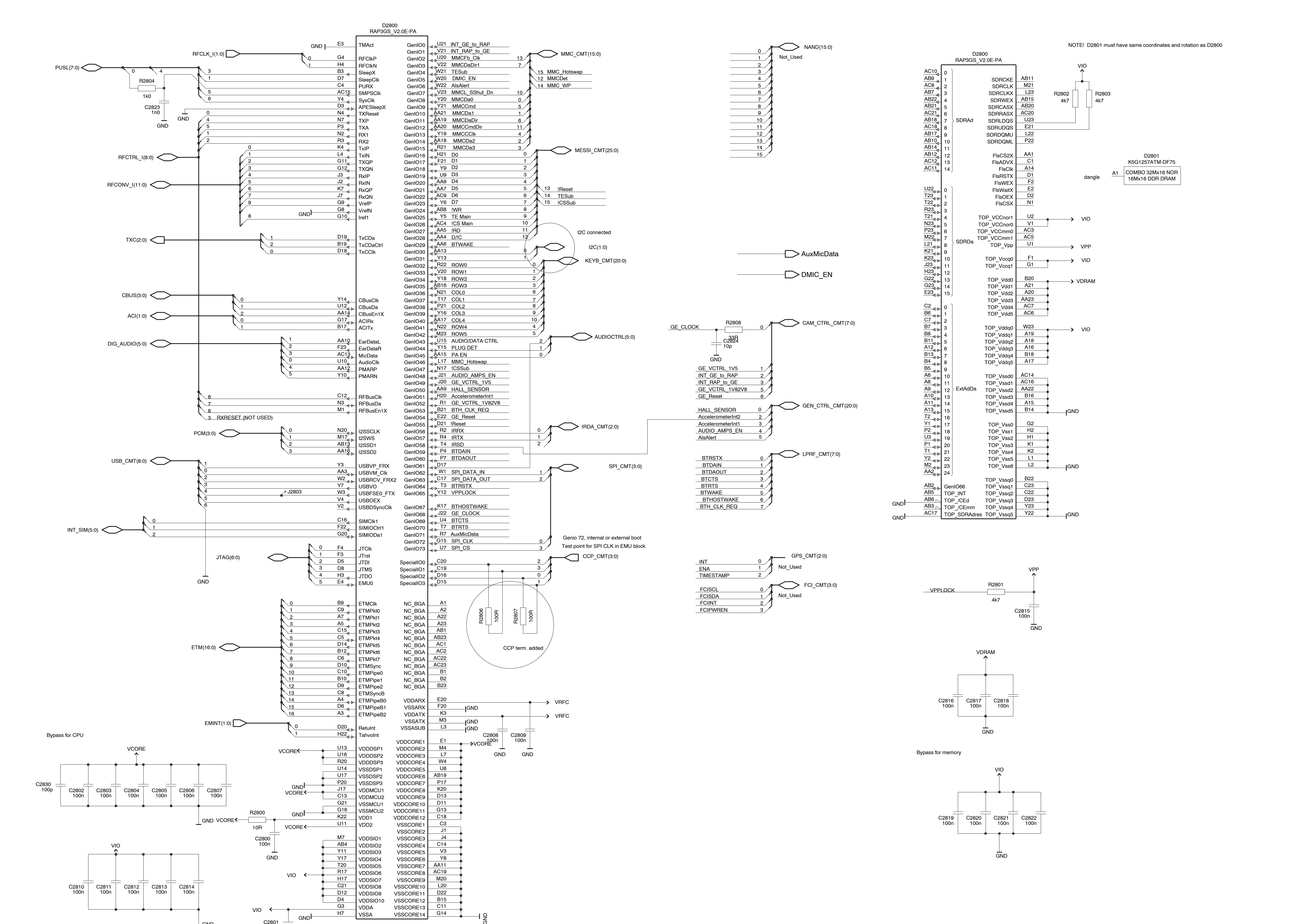



VILMA
vilma_nokia_av
DIG_AUDIO(5:0)
DIG_AUDIO(5:0)
AUDIO(6:0)
AUDIO(6:0)
XAUDIO(5:0)
XAUDIO(5:0)
H_BRIDGE(3:0)
H_BRIDGE(3:0)
ACI(1:0)
ACI(1:0)
EMINT(1:0)
EMINT(1:0)
INT_SIM(5:0)
INT_SIM(5:0)
SIM(6:0)
SIM(6:0)
TXC(2:0)
TXC(2:0)
TXC_CONV(1:0)
TXC_CONV(1:0)
PWRONX
PWRONX
USB_ACI(7:0)
SLOWAD(6:0)
SLOWAD(6:0)
PUSL(7:0)
PUSL(7:0)
CBUS(3:0)
CHSWSTAT
2200-2299
BETTY
without_diode
CBUS(3:0)
SLOWAD(6:0)
CHSWSTAT
PUSL(7:0)
CBUS(3:0)
EMINT(1:0)
CHARGER
CHARGER
INTUSB(8:0)
INTUSB(8:0)
USB_ACI(7:0)
USB_ACI(7:0)
2300-2399

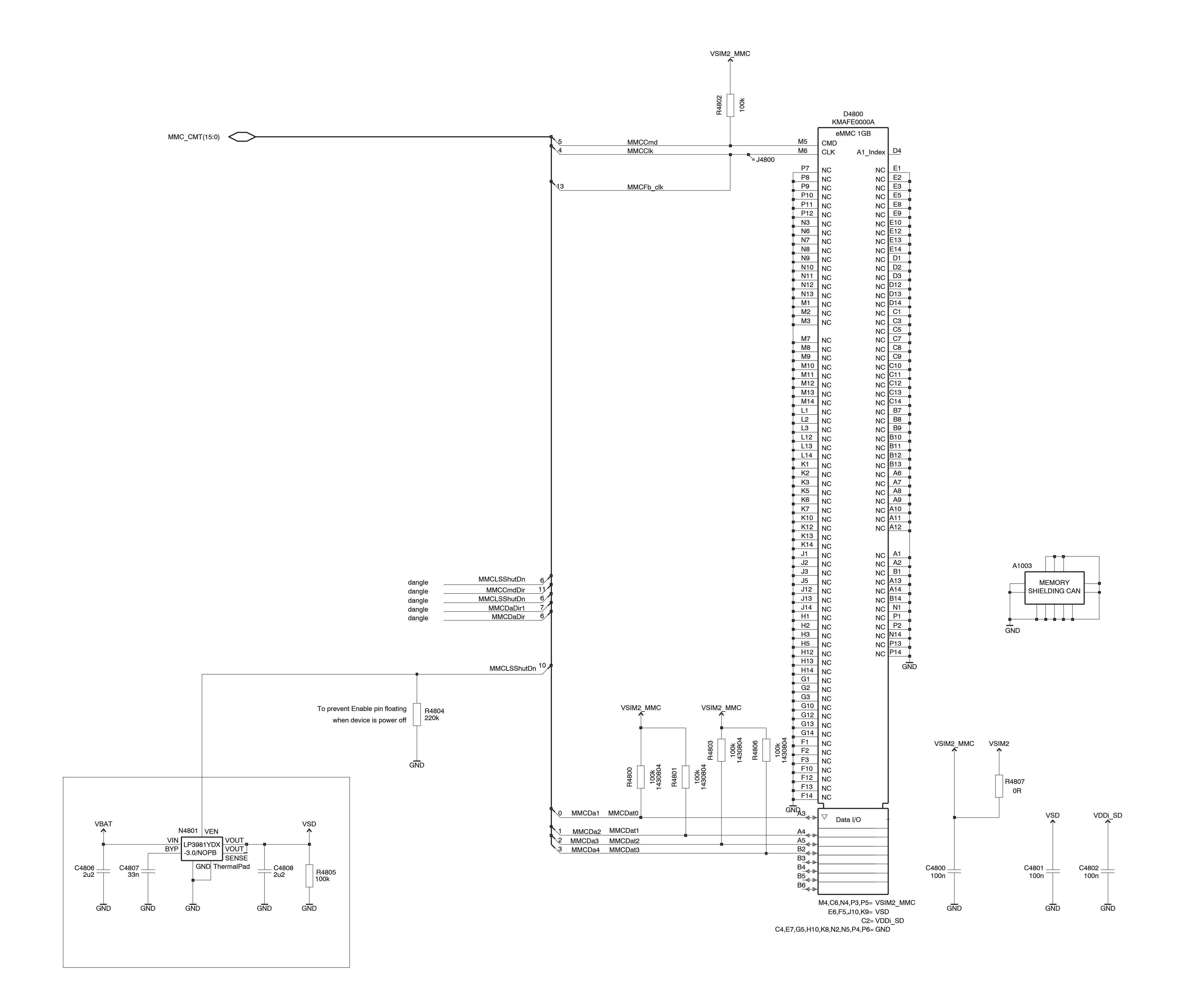

AUDIO(6:0)
XAUDIO(5:0)
N2200
AVILMA_1.05C
SLOWAD(6:0)
H_BRIDGE(3:0)
BSI
BTEMP
LS
LST
RFTEMP
VCHAR
WTXDET
EARP
EARN
HFSPP
HFSPN
VIBRAP
VIBRAN
C2205
1n0
B2200
32.768kHz
PWRONX
VBACK
VBAT
C2228
C2201
VRCP1
VSIM2
VSIM1
VRFC
VR1
VIO
VDRAM
VAUX
VANA
VREF_INT
VREF
DIG_AUDIO(5:0)
100R
R2210
GND
J2200
J2201
J2202
J2203
CHSWSTAT
WATCHDOG ENABLE
CBUS(3:0)
TXC(2:0)
INT_SIM(5:0)
EMINT(1:0)
USB_ACI(7:0)
TXC_CONV(1:0)
SIM(6:0)
PUSL(7:0)
C2232
C2211
4u7
C2222
C2220
C2213
C2215
C2216
C2227
C2217
VBAT1
VBAT2
VBAT3
VBAT4
VBAT5
VBATCP
VBATH
L2202
220R/100MHz
C2225
1u0
C2226
C2215
C2227
C2228
C2232
E2222
J2222
G2200
E2223
J2223
J2216
J2217
J2218
J2219
ACI(1:0)
L2205
220R/100MHz
C2231
10u
C2231 between pins VBATH and GNDH
Note: With SleepClk line should be used Near-End Star Cluster topology,
which means that every conponent has own branch so they are not chained.
It is very important these branches are equal lenght and the star point
(dividing point) is near Vilma



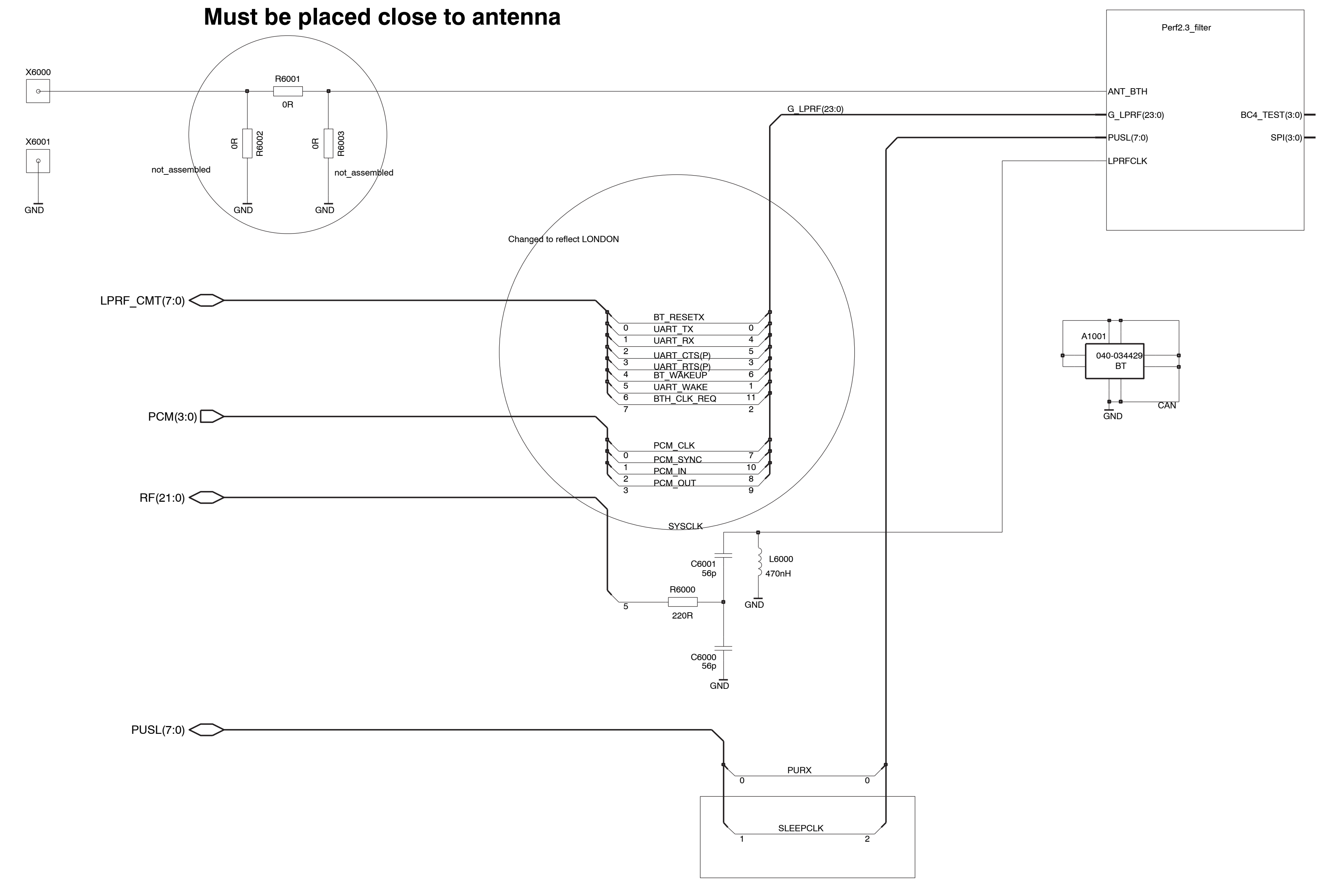
N2300
BETTY_V2.1_V2.2_LFA
VBAT
L2301
220R/100MHz
C2309
22u
GND
C2300
10n
C2301
22u
VCORE
L2302
10uH
C2302
22u
CHARGER
SLOWAD(6:0)
CHSWSTAT
C2307
1u0
VOUT
C2312
2x1u5
1 /2 1u5
J2307
J2306
SENSE CURRENT
PMR03EZPJU10L
R2300
BGND
VBUS
2 /2 1u5
USB_ACI(7:0)
C2303
1u0
VIO
C2304
10n
INTUSB(8:0)
PUSL(7:0)
EMINT(1:0)
CBUS(3:0)
VBAT1
VCoreCoil
VCore
GND1
VCharIn1
VCharIn2
VCharInK
VCharOut1
VCharOut2
VCharOutK
VCharADC
ChSwS
SMPSClk
GND4
VBAT3
GND3
LedCoil
SetCurr
LedOut
GND5
VOUT
SenseP
SenseM
VCC
Slave_PU
Master_PD1
Master_PD2
CLK
RXD2
DP_RXD
DM_TXD
VPP_VIO
VCCint
VIO
OEX
FSE0
VO
RCV_FRX2
VP_FRX
VM_CLK
FTX
SlaveSWSet
RstX
PurX
SleepX
BettyInt
CbusData
CbusSelX
CbusClk
VCoreDef
VcoreDis
FlashM
TestMode
TestOut
GenOut1
GenOut2
PWM300
Clk600
SleepClk



D2800
RAP3GS_V2.0E-PA
NOTE! D2801 must have same coordinates and rotation as D2800
TMAct
RFClkP
RFClkN
SleepX
SleepClk
PURX
SMPSClk
SysClk
APESleepX
TXReset
TXP
TXA
RX1
RX2
TxIP
TxIN
TXQP
TXQN
RxIP
RxIN
RxQP
RxQN
VrefP
VrefN
Iref1
TxCDa
TxCDaCtrl
TxCClk
CBusClk
CBusDa
CBusEn1X
ACIRx
ACITx
EarDataL
EarDataR
MicData
AudioClk
PMARP
PMARN
RFBusClk
RFBusDa
RFBusEn1X
RXRESET (NOT USED)
I2SSCLK
I2SWS
I2SSD1
I2SSD2
USBVP_FRX
USBVM_Clk
USBRCV_FRX2
USBVO
USBFSE0_FTX
USBOEX
USBDSyncClk
J2803
SIMClk1
SIMIOCtrl1
SIMIODa1
JTClk
JTrst
JTDI
JTMS
JTDO
EMU0
ETMClk
ETMPkt0
ETMPkt1
ETMPkt2
ETMPkt3
ETMPkt4
ETMPkt5
ETMPkt6
ETMPkt7
ETMSync
ETMPipe0
ETMPipe1
ETMPipe2
ETMSyncB
ETMPipeB0
ETMPipeB1
ETMPipeB2
RetuInt
TahvoInt
PUSL(7:0)
RFCLK_I(1:0)
R2804
1k0
C2823
1n0
GND
RFCTRL_I(8:0)
RFCONV_I(11:0)
TXC(2:0)
CBUS(3:0)
ACI(1:0)
DIG_AUDIO(5:0)
PCM(3:0)
USB_CMT(8:0)
INT_SIM(5:0)
JTAG(6:0)
ETM(16:0)
EMINT(1:0)
GenIO0 … GenIO73
INT_GE_to_RAP
INT_RAP_to_GE
MMCFb_Clk
MMCDaDir1
TESub
DMIC_EN
AlsAlert
MMCL_SShut_Dn
MMCDa0
MMCCmd
MMCDa1
MMCDaDir
MMCCmdDir
MMCCClk
MMCDa2
MMCDa3
D0
D1
D2
D3
D4
D5
D6
D7
!WR
TE Main
!CS Main
!RD
D/!C
BTWAKE
ROW0
ROW1
ROW2
ROW3
COL0
COL1
COL2
COL3
COL4
ROW4
ROW5
AUDIO/DATA CTRL
PLUG DET
PA EN
MMC_Hotswap
!CSSub
AUDIO_AMPS_EN
GE_VCTRL_1V5
HALL_SENSOR
AccelerometerInt1
GE_VCTRL_1V82V8
BTH_CLK_REQ
GE_Reset
!Reset
IRRX
IRTX
IRSD
BTDAIN
BTDAOUT
SPI_DATA_IN
SPI_DATA_OUT
BTRSTX
VPPLOCK
BTHOSTWAKE
GE_CLOCK
BTCTS
BTRTS
AuxMicData
SPI_CLK
SPI_CS
SpecialIO0
SpecialIO1
SpecialIO2
SpecialIO3
NC_BGA
VDDARX
VSSARX
VDDATX
VSSATX
VSSASUB
VRFC
MMC_CMT(15:0)
MMC_Hotswap
MMCDet
MMC_WP
MESSI_CMT(25:0)
!Reset
TESub
!CSSub
I2C connected
I2C(1:0)
KEYB_CMT(20:0)
AUDIOCTRL(5:0)
IRDA_CMT(2:0)
SPI_CMT(3:0)
Genio 72, internal or external boot
Test point for SPI CLK in EMU block
CCP_CMT(3:0)
R2806
100R
R2807
100R
CCP term. added
C2808
100n
C2809
100n
VDDDSP1
VDDDSP2
VDDDSP3
VSSDSP1
VSSDSP2
VSSDSP3
VDDMCU1
VDDMCU2
VSSMCU1
VSSMCU2
VDD1
VDD2
VDDSIO1
VDDSIO2
VDDSIO3
VDDSIO4
VDDSIO5
VDDSIO6
VDDSIO7
VDDSIO8
VDDSIO9
VDDSIO10
VDDA
VSSA
VDDCORE1 … VDDCORE12
VSSCORE1 … VSSCORE14
VCORE
VIO
R2800
10R
C2800
100n
C2801
100p
Bypass for CPU
C2830
100p
C2802
100n
C2803
100n
C2804
100n
C2805
100n
C2806
100n
C2807
100n
C2810
100n
C2811
100n
C2812
100n
C2813
100n
C2814
100n
NAND(15:0)
Not_Used
AuxMicData
DMIC_EN
GE_CLOCK
R2808
33R
C2824
10p
CAM_CTRL_CMT(7:0)
GE_VCTRL_1V5
INT_GE_to_RAP
INT_RAP_to_GE
GE_VCTRL_1V82V8
GE_Reset
GEN_CTRL_CMT(20:0)
HALL_SENSOR
AccelerometerInt2
AccelerometerInt1
AUDIO_AMPS_EN
AlsAlert
LPRF_CMT(7:0)
BTRSTX
BTDAIN
BTDAOUT
BTCTS
BTRTS
BTWAKE
BTHOSTWAKE
BTH_CLK_REQ
GPS_CMT(2:0)
INT
ENA
TIMESTAMP
FCI_CMT(3:0)
FCISCL
FCISDA
FCIINT
FCIPWREN
SDRAd
SDRCKE
SDRCLK
SDRCLKX
SDRWEX
SDRCASX
SDRRASX
SDRLDQS
SDRUDQS
SDRDQMU
SDRDQML
FlsCS2X
FlsADVX
FlsClk
FlsRSTX
FlsWEX
FlsWaitX
FlsOEX
FlsCSX
SDRDa
ExtAdDa
TOP_VCCnor1
TOP_VCCnor0
TOP_VCCmm0
TOP_VCCmm1
TOP_Vpp
TOP_Vccq0
TOP_Vccq1
TOP_Vdd0 … TOP_Vdd5
TOP_Vddq0 … TOP_Vddq5
TOP_Vssd0 … TOP_Vssd5
TOP_Vss0 … TOP_Vss6
TOP_Vssq0 … TOP_Vssq5
GenIO66
TOP_INT
TOP_/CEd
TOP_/CEmm
TOP_SDRAdres
R2802
4k7
R2803
4k7
VPP
VDRAM
D2801
K5G1257ATM-DF75
dangle
COMBO 32Mx16 NOR
16Mx16 DDR DRAM
VPPLOCK
R2801
4k7
C2815
100n
C2816
100n
C2817
100n
C2818
100n
Bypass for memory
C2819
100n
C2820
100n
C2821
100n
C2822
100n

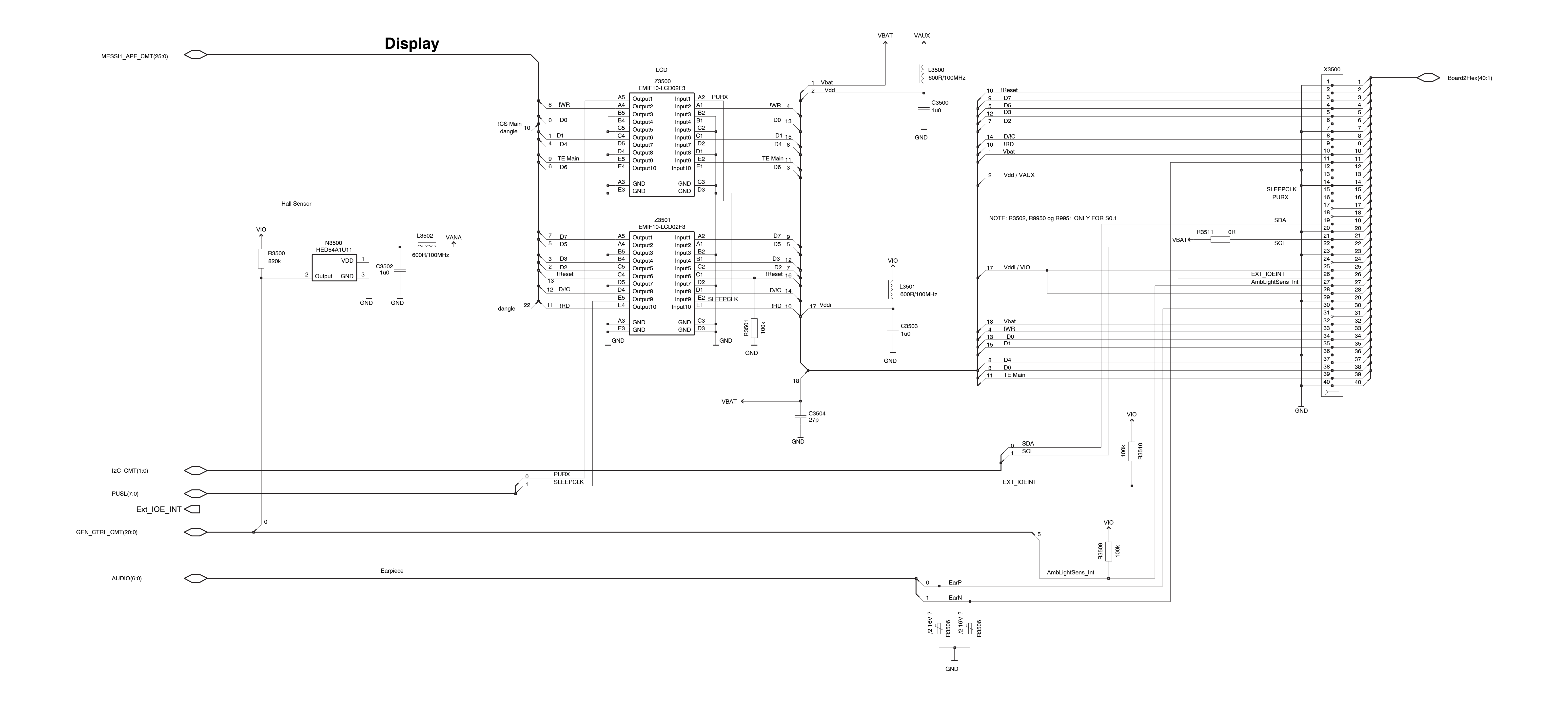


VSIM2_MMC
R4802
100k
D4800
KMAFE0000A
eMMC 1GB
MMC_CMT(15:0)
MMCCmd
MMCClk
MMCFb_clk
J4800
CMD
CLK
A1_Index
Data I/O
dangle
MMCLSShutDn
MMCCmdDir
MMCDaDir1
MMCDaDir
To prevent Enable pin floating
when device is power off
R4804
220k
GND
VSIM2_MMC
R4800
R4801
R4803
R4806
100k
1430804
MMCDa1
MMCDat0
MMCDa2
MMCDat1
MMCDa3
MMCDat2
MMCDa4
MMCDat3
M4,C6,N4,P3,P5= VSIM2_MMC
E6,F5,J10,K9= VSD
C2= VDDi_SD
C4,E7,G5,H10,K8,N2,N5,P4,P6= GND
VSIM2
R4807
0R
C4800
100n
VSD
C4801
100n
VDDi_SD
C4802
100n
A1003
MEMORY
SHIELDING CAN
VBAT
N4801
VEN
VIN
BYP
LP3981YDX
-3.0/NOPB
VOUT
SENSE
GND
ThermalPad
C4806
2u2
C4807
33n
C4808
2u2
VSD
R4805
100k

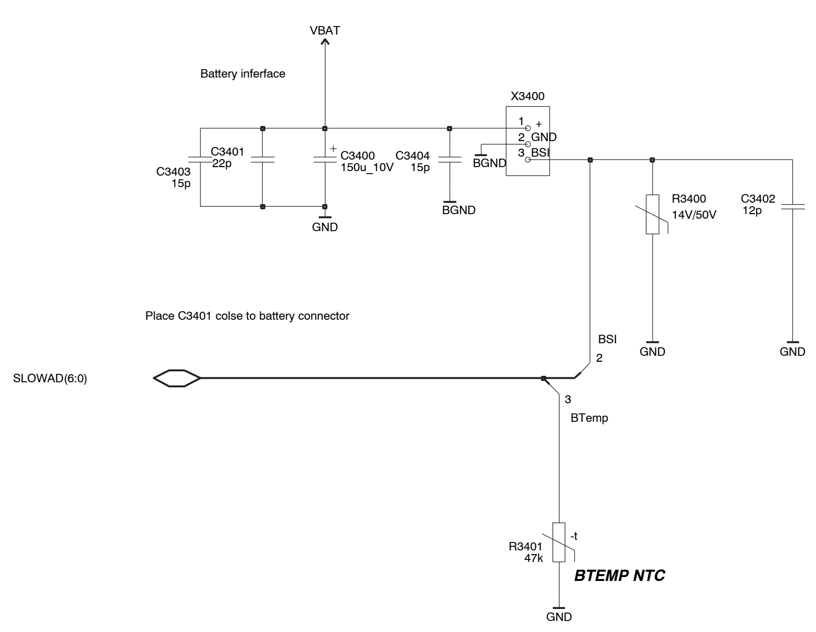


Must be placed close to antenna
X6000
X6001
GND
R6001
0R
0R
R6002
0R
R6003
not_assembled
not_assembled
GND
GND
Perf2.3_filter
ANT_BTH
G_LPRF(23:0)
PUSL(7:0)
LPRFCLK
BC4_TEST(3:0)
SPI(3:0)
G_LPRF(23:0)
Changed to reflect LONDON
LPRF_CMT(7:0)
BT_RESETX
UART_TX
UART_RX
UART_CTS(P)
UART_RTS(P)
BT_WAKEUP
UART_WAKE
BTH_CLK_REQ
PCM(3:0)
PCM_CLK
PCM_SYNC
PCM_IN
PCM_OUT
RF(21:0)
SYSCLK
C6001
56p
L6000
470nH
GND
R6000
220R
C6000
56p
GND
A1001
040-034429
BT
GND
CAN
PUSL(7:0)
PURX
SLEEPCLK
Note PUSL(7:0) mapping

Display



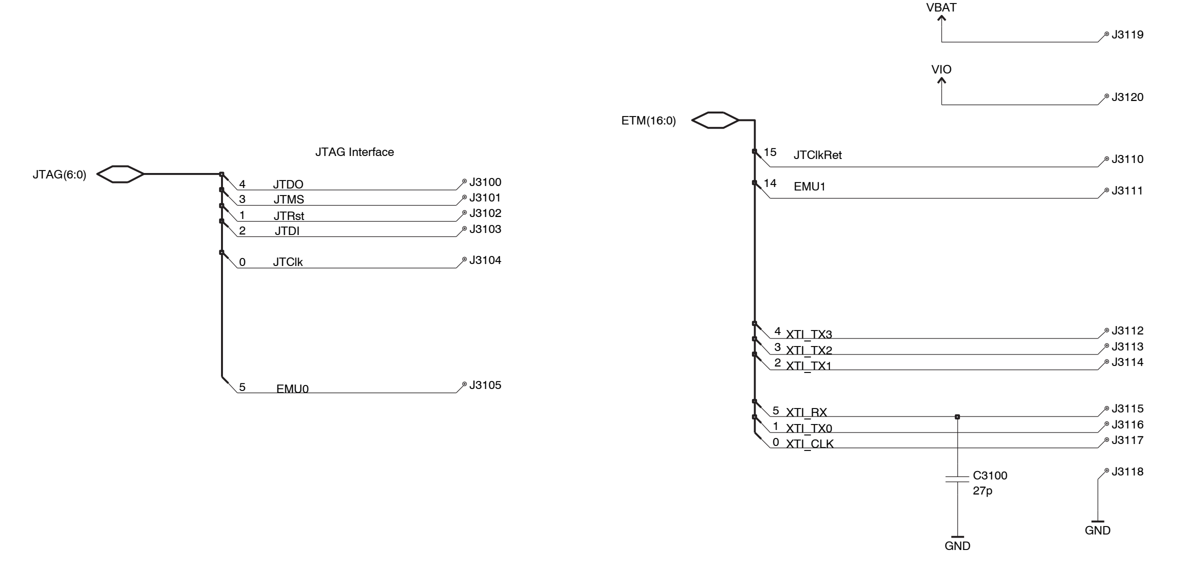
MESSI1_APE_CMT(25:0)
LCD
Z3500
EMIF10-LCD02F3
Z3501
EMIF10-LCD02F3
!CS Main dangle
dangle
Hall Sensor
VIO
R3500
820k
N3500
HED54A1U11
VDD
Output
GND
C3502
1u0
L3502
600R/100MHz
VANA
GND
VBAT
VAUX
L3500
600R/100MHz
C3500
1u0
L3501
600R/100MHz
C3503
1u0
C3504
27p
R3501
100k
SLEEPCLK
PURX
X3500
Board2Flex(40:1)
NOTE: R3502, R9950 og R9951 ONLY FOR S0.1
R3511
0R
SDA
SCL
EXT_IOEINT
AmbLightSens_Int
Vdd / VAUX
Vddi / VIO
R3510
100k
R3509
100k
I2C_CMT(1:0)
PUSL(7:0)
Ext_IOE_INT
GEN_CTRL_CMT(20:0)
AUDIO(6:0)
Earpiece
EarP
EarN
R3506
R3508
GND

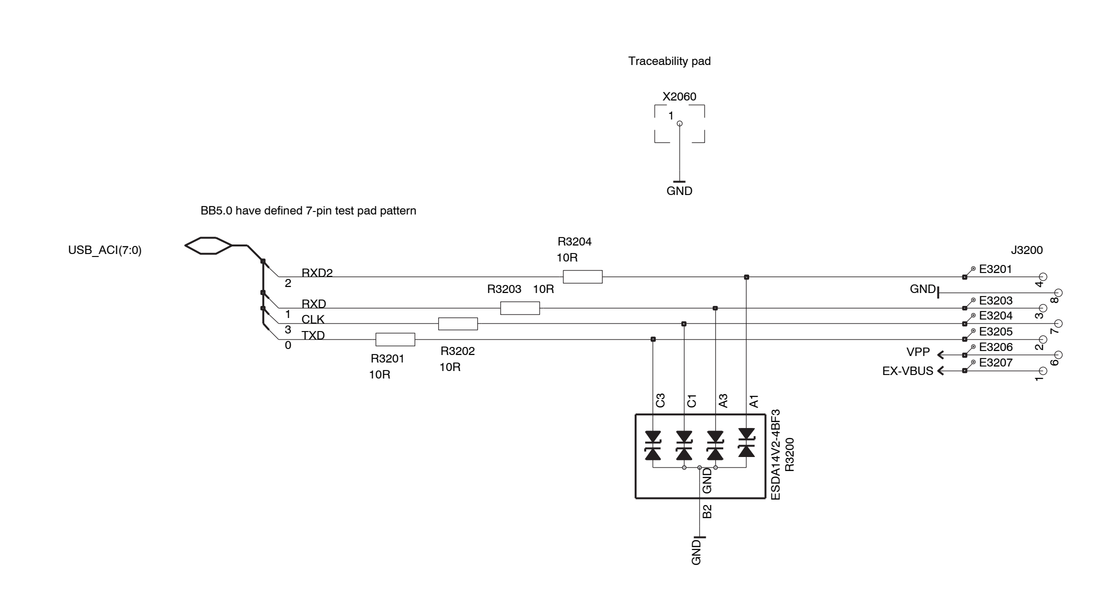


NOTE !! R3400 IS NEEDED IF VILMA IS FAR FROM BATTERY CONNECTOR !!!
PLACE R3401 NEAR BATTERY CONNECTOR !!!

ETM Interface







Traceability pad
X2060
1
GND
BB5.0 have defined 7-pin test pad pattern
USB_ACI(7:0)
RXD2
2
RXD
1
CLK
3
TXD
0
R3204
10R
R3203
10R
R3202
10R
R3201
10R
J3200
E3201
GND
E3203
E3204
E3205
E3206
E3207
VPP
EX-VBUS
4
8
3
7
2
6
1
C3
C1
A3
A1
ESDA14V2-4BF3
R3200
GND
B2
GND

INT_IO_EXP

RESET_IO_EXP

SleepCLK

ALS_int

VAUX

N1140
TSL2563CS
Vdd SDA 6
AddrSel INT 5
Gnd SCL 4
2351017
C1140
100n
GND GND
I2C add b0101001x
AMBIENT LIGHT SENSOR

N1120
LM8323JGR8X
C1 _RESET
D6 CONFIG_1
E2 ACB_SDA
E1 ACB_SCL
D2 XTAL_IN
D1 XTAL_OUT
A6 KP-X0 ROW0
A5 KP-X1 ROW1
F1 KP-X2 ROW2
F2 KP-X3 ROW3
A2 KP-X4 ROW4
B3 KP-X5
A3 KP-X6
B4 KP-X7
A4 VCC
F4 VCC
PWM-0 E4
PWM-1 F5
PWM-2 E5
_IRQ F3
KP-Y0 C6 COL0 0
KP-Y1 C5 COL1 1
KP-Y2 B6 COL2 2
KP-Y3 B5 COL3 3
KP-Y4 B2
KP-Y5 A1
KP-Y6 B1
KP-Y7 C2
KP-Y8 E3
KP-Y9/ROT_IN_1 D5
KP-Y10/ROT_IN_2 E6
KP-Y11/ROT_IN_3 F6
GND C3
GND C4
GND D3
GND D4
VIO
2351017 C1120 100n
GND
I2C add b1000011x
keyb(9:0)
GND
R1121 0R not_assembled
R1120 4k7
VIO

Z1120
EMIF10-COM01F2
ROW4 E1 OUT1 IN1 A1
ROW3 E2 OUT2 IN2 A2
ROW2 E3 OUT3 IN3 A3
ROW1 E4 OUT4 IN4 A4
ROW0 E5 OUT5 IN5 A5
COL3 D1 OUT6 IN6 B1
COL2 D2 OUT7 IN7 B2
D3 OUT8 IN8 B3
COL1 D4 OUT9 IN9 B4
COL0 D5 OUT10 IN10 B5
C3 GND
C4 GND GND C1
C5 GND GND C2
GND GND

COL0 COL1 GND COL3
1 S1109
2 S1113
3 S1117
S1105 SOFT LEFT
ROW0
4 S1110
5 S1114
6 S1118
S1106 SEND
ROW1
7 S1111
8 S1115
9 S1119
S1107 END
ROW2
* S1112
0 S1116
S1120
S1108 SOFT RIGHT
ROW3

S1122
UP
LEFT
RIGHT
DOWN

Flex2Board(40:1)
X2401
1–40
VIO
SCL SDA
GND

EARPIECE

L1150
MCZ1210AD102T
EARP
EARN
B1150
not_assembled
R1150 ? /2 16V
R1150 ? /2 16V
GND GND
same GND connection

VIO_LEDdriver

LED and drivers

SCL
SDA
C1101
100n
GND
Vbat_LEDdriver

N1165
LP5521YQ
14 EN TRIG 7
15 SCL INT 6
13 SDA
5 CLK_32K B 19
G 18
21 ADDR_SEL1 R 17
20 ADDR_SEL0
GPO 16
24 CFLY1N
2 CFLY1P VOUT 22
23 CFLY2N
1 CFLY2P
GND 4
3 VDD GND 25
C1162 470n
470n C1163
C1160 1u0
C1161 1u0
GND
I2C add b0110 011x
R1101 220R
R1102 220R
CL-840S-WTV-D-TS V1163 5 way key
CL-840S-WTV-D-TS V1162 Soft Right
CL-840S-WTV-D-TS V1161 End
CL-840S-WTV-D-TS V1160 Send
GND

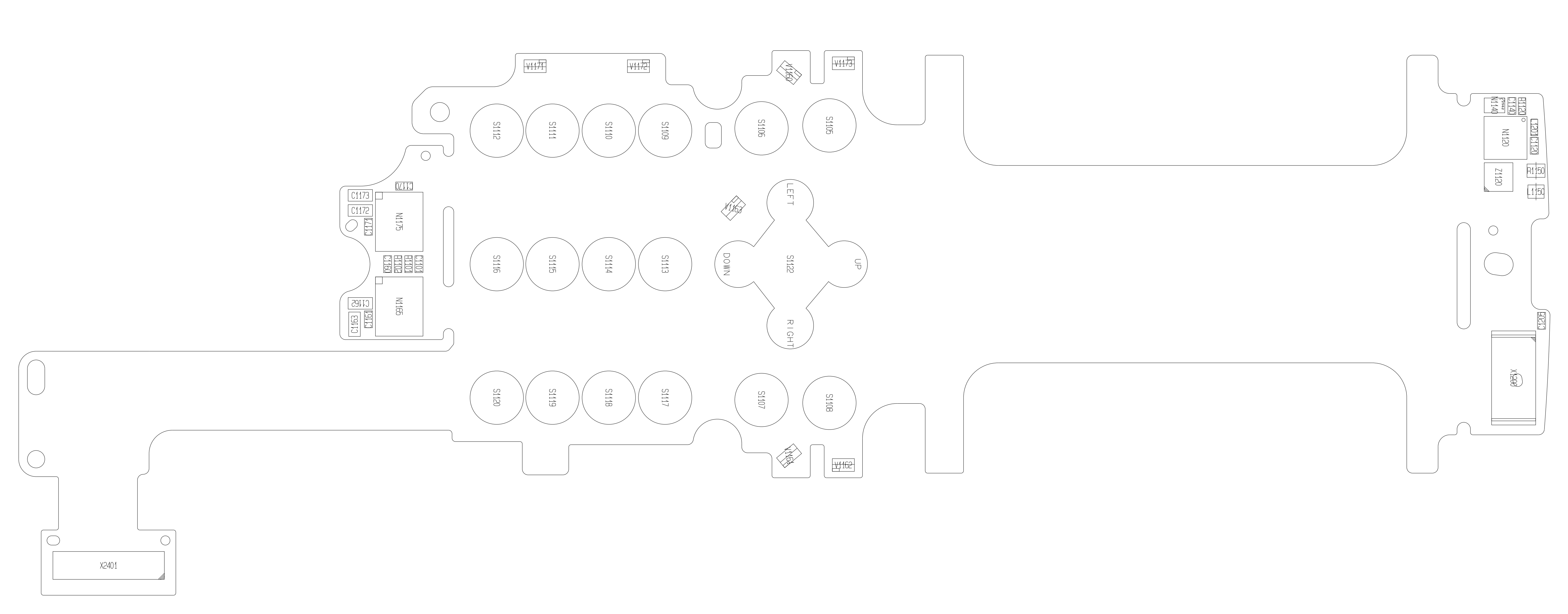
N1175
LP5521YQ
14 EN TRIG 7
15 SCL INT 6
13 SDA
5 CLK_32K B 19
G 18
21 ADDR_SEL1 R 17
20 ADDR_SEL0
GPO 16
24 CFLY1N
2 CFLY1P VOUT 22
23 CFLY2N
1 CFLY2P
GND 4
3 VDD GND 25
C1172 470n
C1173 470n
C1170 1u0
C1171 1u0
GND
I2C add b0110 100x
CL-840S-WTV-D-TS V1173 Soft left
CL-840S-WTV-D-TS V1172 NUM. (123456)
CL-840S-WTV-D-TS V1171 NUM. (789*0#)

Display Interface

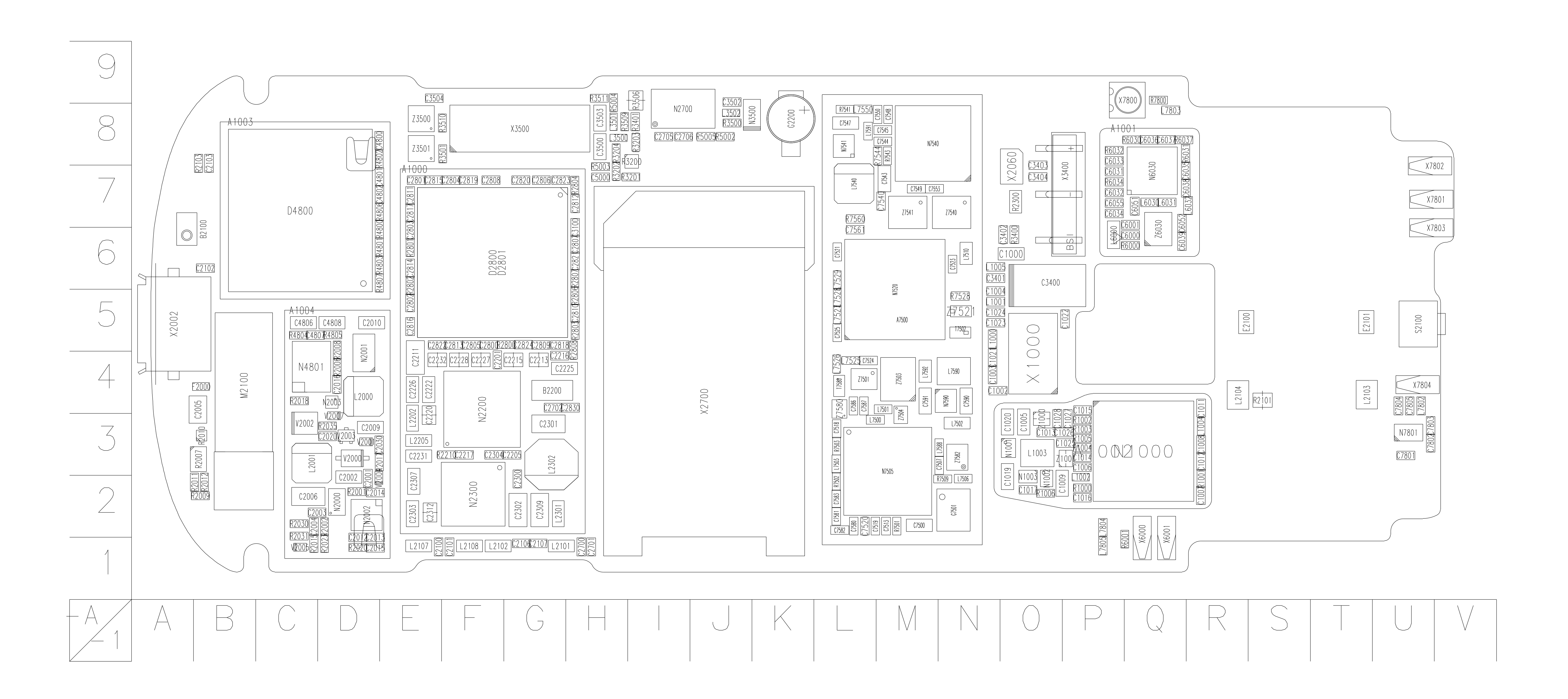
Main Disp.

X1200
VBAT 3
!WR 5
D0 6
D2 8
D4 9
D6 10
!CS Main 11
!Reset 12
TE Main 13
D7 14
D5 15
D3 17
D1 18
D/!C 19
!RD 20
VBAT 24
GND
Vddi
VIO
L1201
600R/100MHz
C1205
1u0
GND

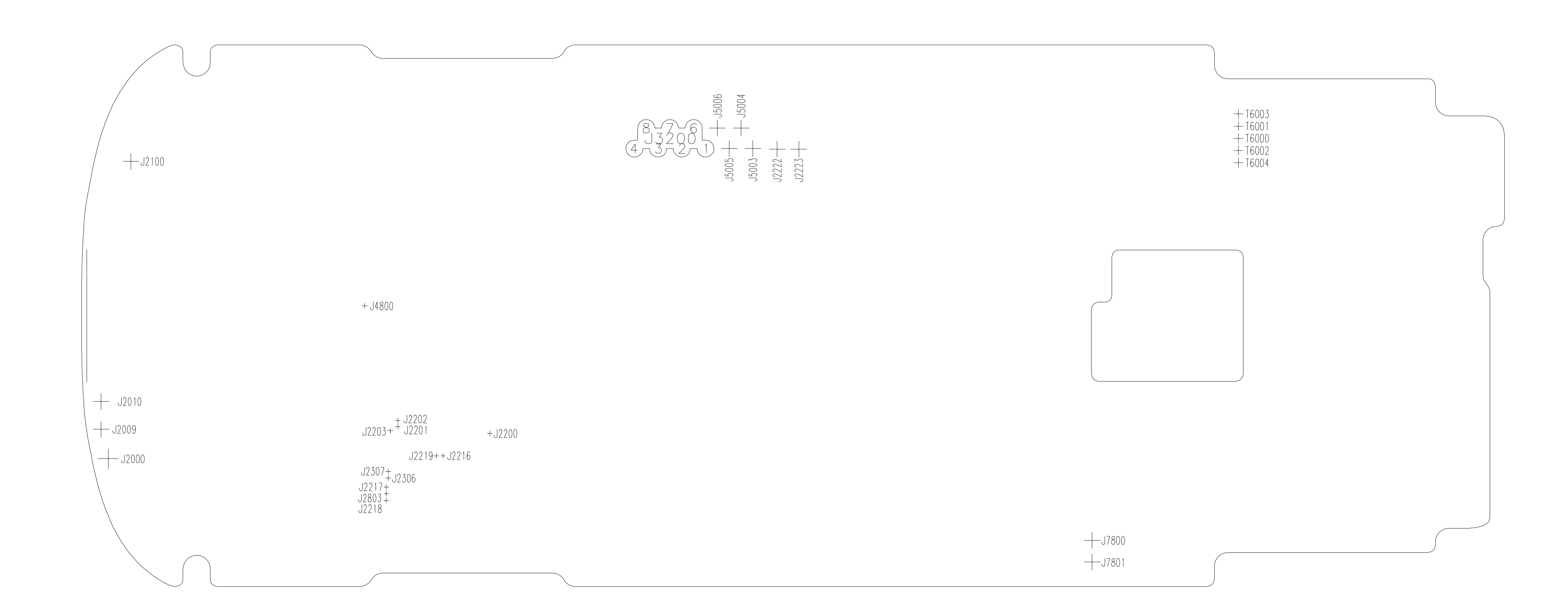
E1309
E1310
E1311
E1312
GND



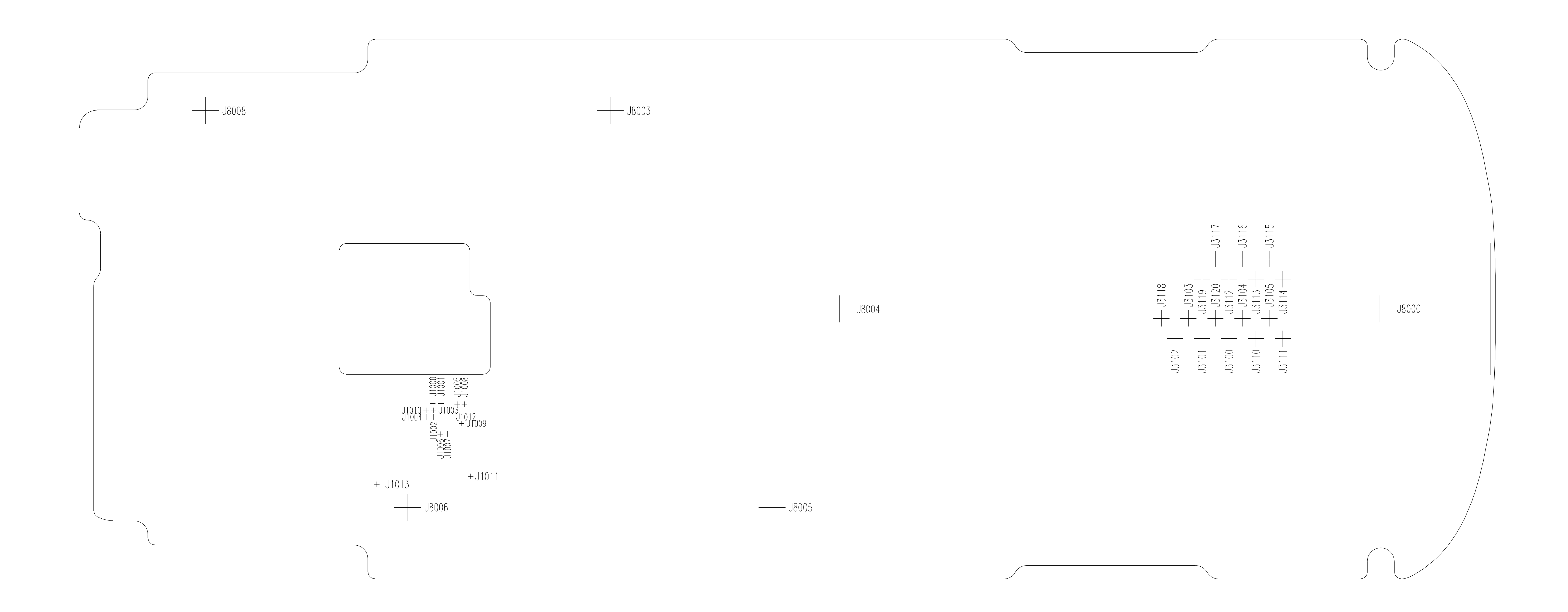
2azd_04a_asmdrw_t.pdf



2aza_09a_AsmDrw_T.608.pdf



2aza_09a_Tp_Drw_T.608.pdf


J8008
J8003
J8004
J8000
J3117
J3116
J3115
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J3119
J3120
J3112
J3104
J3113
J3105
J3114
J3102
J3101
J3100
J3110
J3111
J1000
J1001
J1005
J1008
J1010
J1003
J1004
J1012
J1009
J1002
J1006
J1007
J1011
J1013
J8006
J8005